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The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

April 19, 1929 Volume 53. No. 5

AMONG CHAMPIONS

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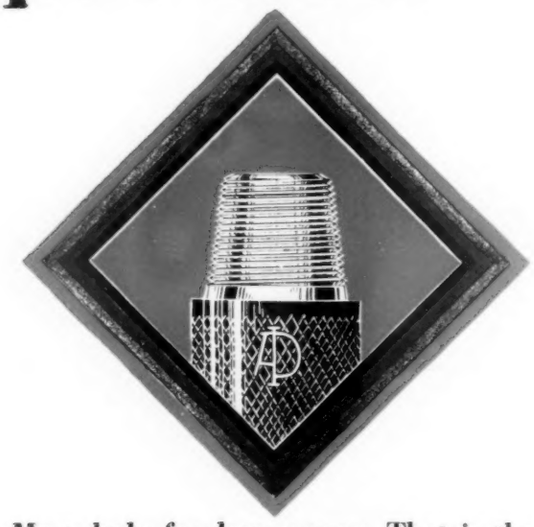
=Cheaper hole



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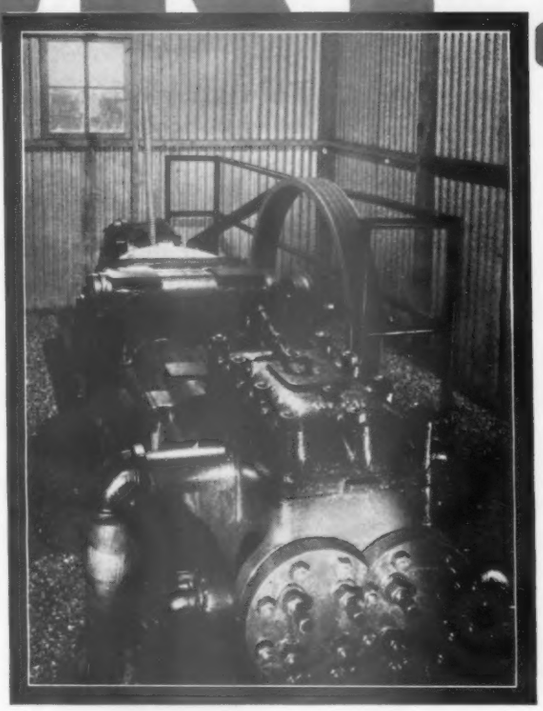
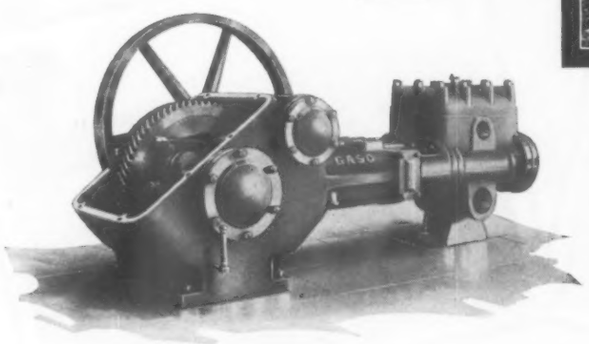
HUSKY!

Specifications reveal Inherent Durability . . . . in the Fig. 1508 GASO PUMP



A Gaso Fig. 1508 Pump arranged for automatic operation with attention only at long intervals. Station near Drumright, Okla., of Shaffer Oil & Ref. Co. Pipe Line Department.



Capacity of Gaso Fig. 1508 Enclosed Power Pump with interchangeable liner fluid end varies from 63 barrels per hour at 800 pounds pressure, with 2½ inch liner, to 250 barrels per hour at 250 pounds pressure, with 5 inch liner.

Pump can be arranged (1) with pulley for belt drive, (2) direct connected to engine through flexible coupling, (3) for motor drive through silent chain, or reduction gears, (4) for "V" rope drive.

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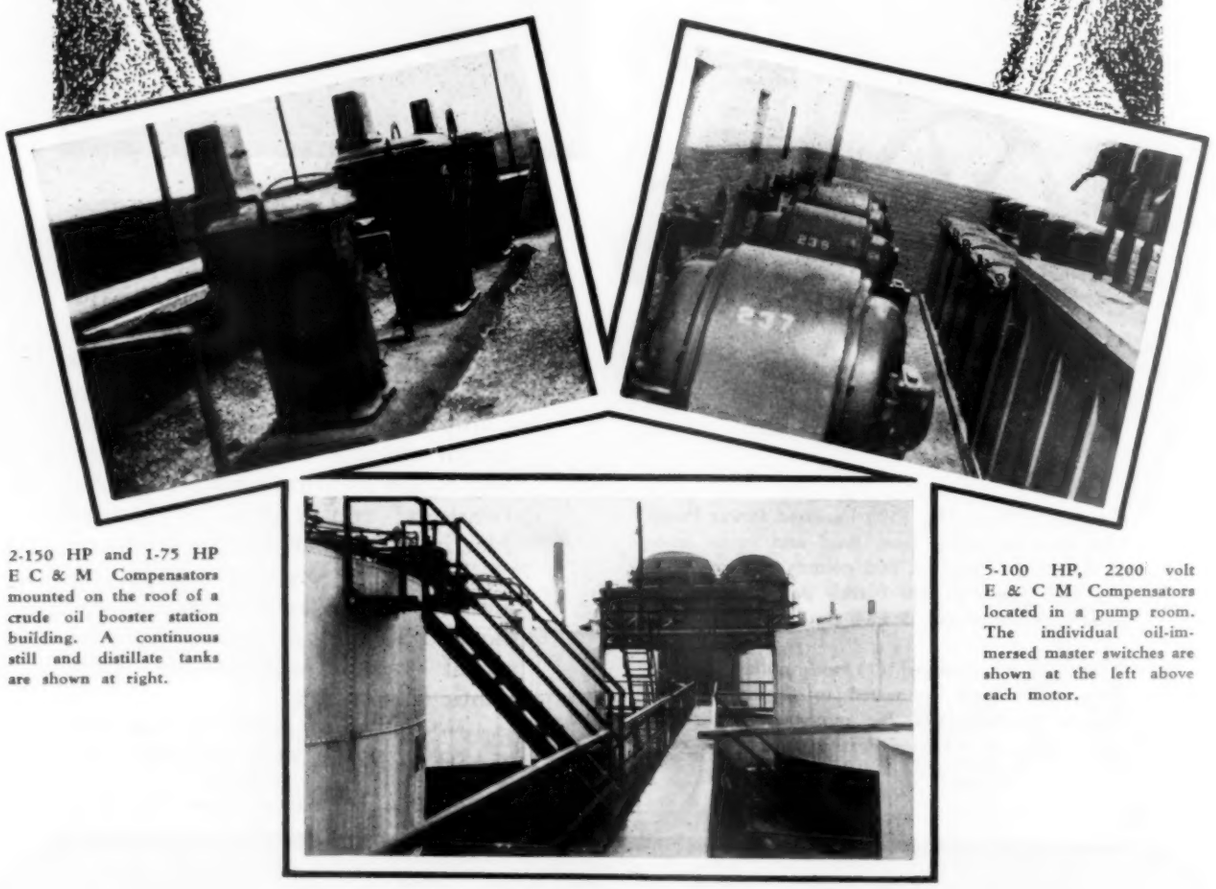

2-150 HP and 1-75 HP E C & M Compensators mounted on the roof of a crude oil booster station building. A continuous still and distillate tanks are shown at right.

5-100 HP, 2200 volt E & C M Compensators located in a pump room. The individual oil-immersed master switches are shown at the left above each motor.

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When you think about the troubles a President has, no matter what his politics are, you wish, for his sake, and for our sake, that he was a plumber. The presidency is an awful job. But so is wiping a joint under a sink.

If there ever was a job that called for plumber's tools it is the presidency. As Cal Coolidge could tell, although he wouldn't, there are more leaks in Washington than in the mail-order plumbing job installed with the help of simple printed instructions.

And Herbert Hoover is going to find it the same way. He is going to wake up some night in the old White House with a cold stream running down his neck, and realize that some senator has broken loose again.

So I am considering—only considering, mind you—sending Mr. Hoover a complete line of Nye Tools such as you will find in any other good plumbing shop. He's got a plumber's job, and he ought to have the tools that go with it.

When he has to put the screws on, for instance, what could be sweeter than one of our extra heavy pipe vises at $4? And a $10.50 die-stock, if a man knows how to swing it, will work just as well in the White House as it would in a rough-house.

I hope Herbert will accept them in the spirit in which they are intended, which is, if you see a head hit it. There is not a bit of pussyfooting about Nye Tools. When they grab a piece of pipe, something has to give. And it's always the pipe.

Yours for a good job,

HARRY G. NYE.

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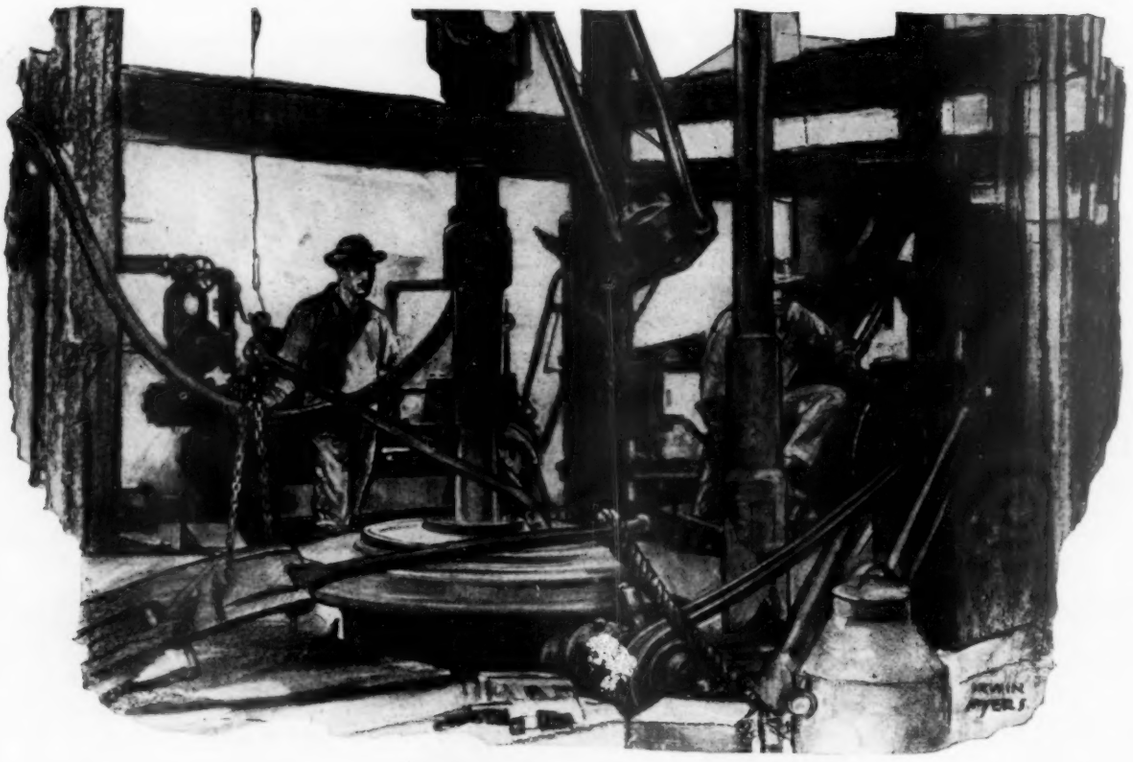

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WHEN every minute counts in the race of men and steel against earth and time, you can forget about your bits—if they are Agathon Alloy Steel.

Bits of Agathon Alloy Steel are tough and dependable. They stay in the hole longer and make more hole because Agathon Alloy Steel is that kind of steel.

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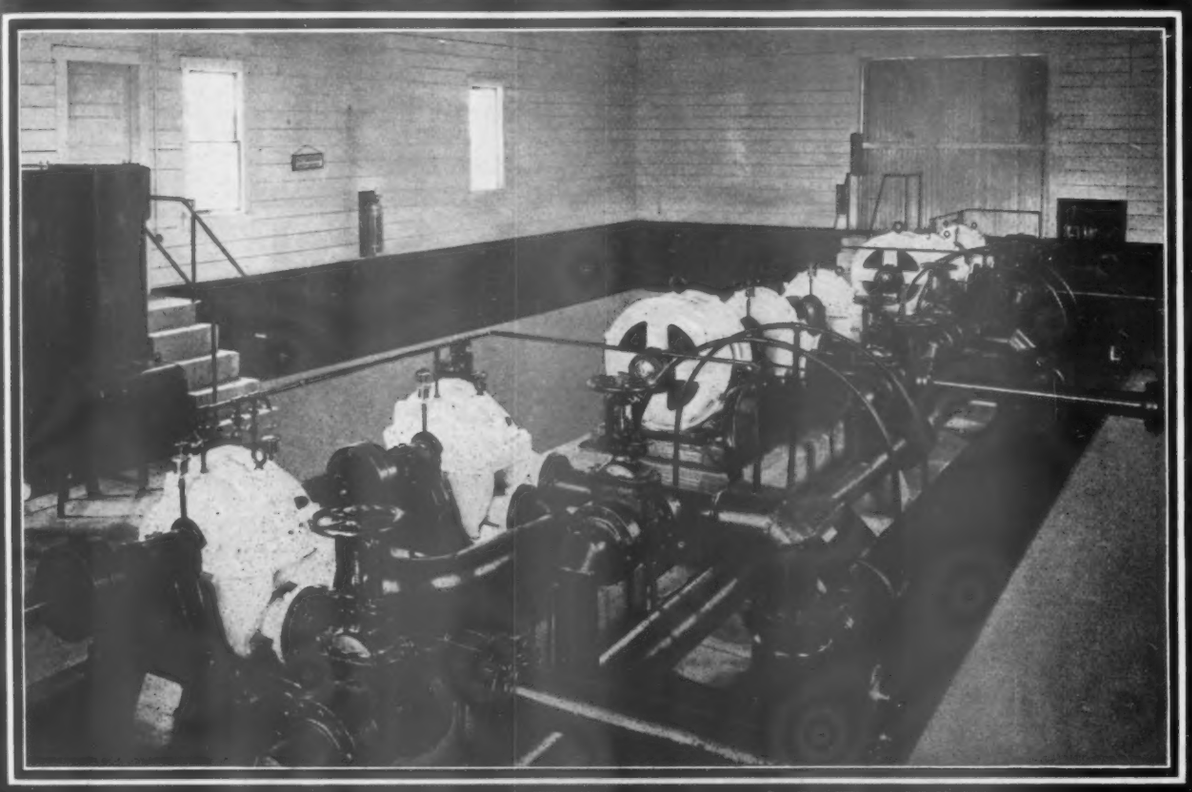

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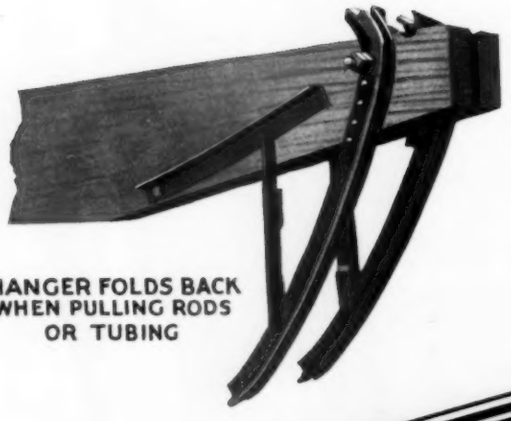

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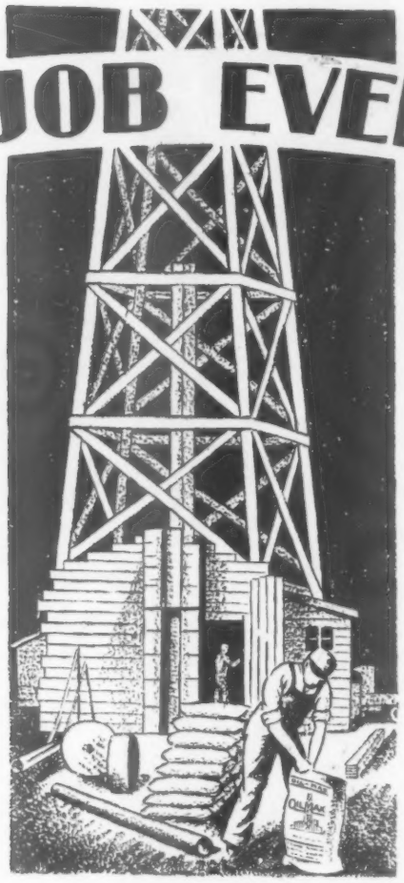

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Control the Flow —and You Safeguard Your Profits

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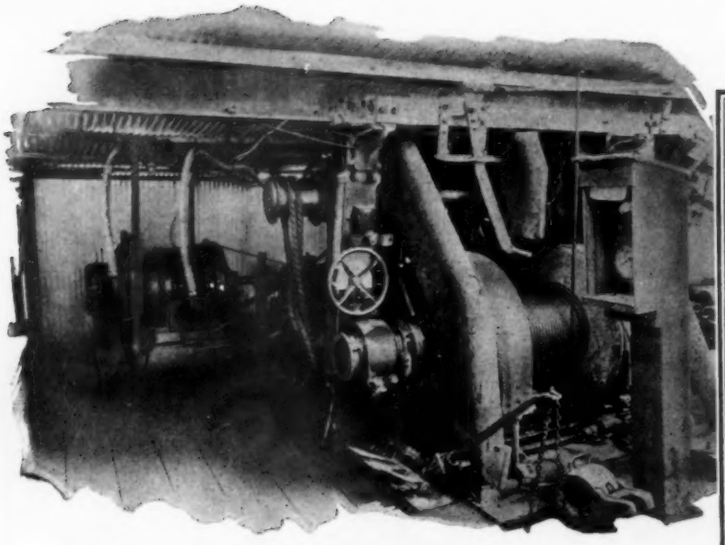
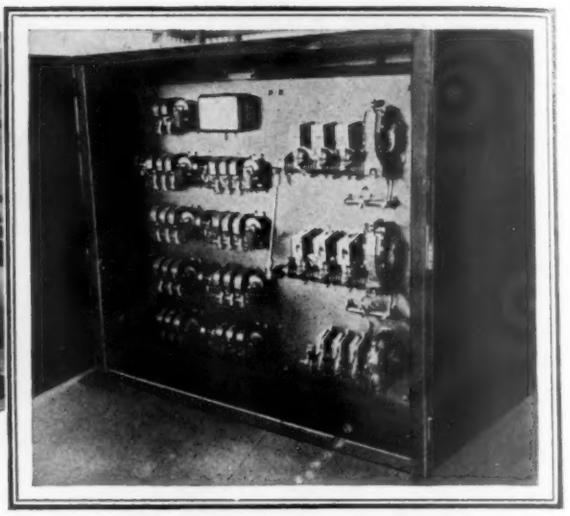


Electric rotary installation on lease in Dominquez, California



Type CR7876-C1 magnetic control panel for rotary drive

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APR 22 1929

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The OIL WEEKLY

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VOLUME 53, NO. 5

APRIL 19, 1929

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

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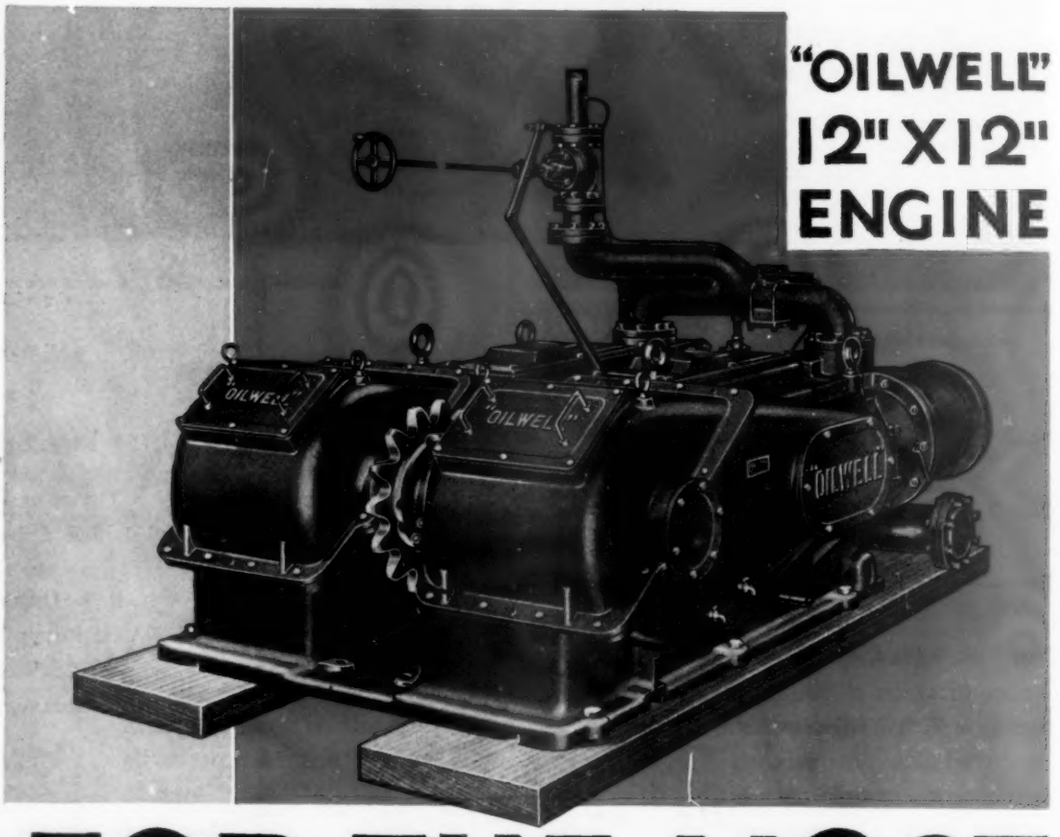
MAXIMUM POWER



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All working parts are enclosed and operate in a bath of oil. This safeguards the operator, increases the life of the engine, makes it safer for inspection and adjustment, and protects it from the weather.

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

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Volume 53, No. 5 *April 19, 1929*

The OIL WEEKLY

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New Texas Fault Field Typical Shoe-String Development

Salt Flat's first well was on southern end and all extension has been toward northeast; end not in sight

By JACK LOGAN
Staff Representative

LULING, Texas. — It so happened that the first producer from the Edwards lime in the Salt Flat field, Caldwell County, was in the extreme southwestern end of what is now the proven field. Subsequent development has pushed the limits of production repeatedly to the northeast, along the narrow fault line in which oil is trapped, until the field has a length of six miles. How much farther the productive area will be extended to the northeast is a question which has brought forth many opinions and prophecies. Some are of the opinion that the field has practically reached its northeast limit, while others have various theories as to further extensions.

In the first week of April, the most northerly test of the area is A. L. Buchanan et al's Trap Briscoe 1, located 3000 feet northeast of the most northeasterly producer of the field, Humble Oil & Refining Company's L. G. Hanson 1. The test on the Briscoe land is naturally being watched with great interest. April 3 it was reported drilling at 2448 feet in sticky shale, indicating it may be located on the down-throw side of the fault line, possibly too far west to get production. (In the field heretofore, the top of the Austin chalk has been found ordinarily at approximately 1850 feet below sea level). Since the elevation of Buchanan's Briscoe 1 is approximately 375 feet, the test normally should have hit the top of the chalk around 2250 feet below the surface, whereas, as noted above, it was still in sticky shale at 2448 feet, not yet having encountered the chalk. If it is true that the test is too far to the west, it will remain for other tests, farther east, to give definite information as to further northward extension of the field. In connection with this test, however, no definite conclusion can be arrived at. Tops of formations at Salt Flat are rather poor markers, appearing erratically in frequent cases at levels varying from the normal.

While Humble Oil & Refining Company's Hanson 1 was referred to above as the most northerly producer at Salt Flat, there is another producer about the

Map of the Salt Flat area; the town of Luling is in the center of the bottom edge of the section shown

same distance north, Capps et al's New 1, located 1000 feet west of Hanson 1. Hanson 1 is pumping 50 barrels daily from the Edwards lime at 2704-24 feet; the Capps well is pumping 70 barrels daily at 2750 feet.

It was stated above that the discovery well of Edwards lime production at Salt Flat (Sun Oil Company's Malone 1) is near the southern end of the field. That well, in addition, may be regarded as practically the southern edge of the Edwards lime production developed so far. Wells farther south are producing principally from the Austin chalk, and in cases where they are producing from the lime, they hit the lime too far down to make good wells and are making a great deal of water. There is, nevertheless, some chance of further extension of the Edwards lime production to the south. T. C. Hadley's Merriweather 1, extreme southern test of the field, is being watched with interest. It is reported to have drilled into the top of the chalk at 2255 feet, indicating good possibilities for Edwards production. The test has been carried on down to the lime, and on April 3 was waiting for cement to set

As it has been developed, Edwards lime production at Salt Flat, constituting the greater part of the total, extends from southwest to northeast in a line which is absolutely straight. The fault from which the oil is coming contitutes a part of the Balcones system of faulting: the same fault system on which are located the Luling field, Caldwell County, the Corsicana, Powell and Mexia fields. Salt Flat runs parallel with the Luling field and is about six miles south of it. The two fields are similar in that they are both producing from Edwards lime, being the only two major fields that are producing from that formation. Salt Flat, however, is making a higher gravity oil than the older Luling field.

As in the case of Luling and the other Balcones fault fields, the fault underlying Salt Flat has the up-throw on the southeast side, furnishing a trap for accumulation. Width of the productive strip along that fault line is very narrow. In its widest place the field is only 1500 feet, and the average width is approximately 1000 feet. The limits of oil production are sharp and well defined. The difference of only a few feet in the location of a test to the east or the west may be the difference between an oil well and a dry hole. In that part of the field which has been most drilled so far, that is, south of the center of the field, there is a line of wells along the west edge of the fault which penetrated the actual line of fracture; going first through a portion of the down-throw side of the fault, and deeper down passing into the up-throw side, obtaining production. The wells along that line of fracture include Gulf Production Company's W. L. Smith 9 and 6, Humble Oil & Refining Company's William Smith 1, Shell Petroleum Corporation's Belvie Moses 4, The Texas Company's R. W. Carter 1, and Hadley's Northcut 1.

Salt Flat Production March 16 to 22, Inclusive

	Wells	Daily Prod.	Total
J. S. Abercrombe....	5	894	6,261
Atlantic Oil Producing Company ..	2	100	697
Cranfill & Reynolds..	7	1,666	11,658
Golden West Oil Co.	5	398	2,783
Gulf Production Co..	36	10,980	76,865
Humble Oil & Refining Company ..	35	9,272	64,907
Lang & Witherspoon	1	51	353
Lutex Oil Company .	7	207	1,443
Shell Oil Company..	22	9,526	66,680
Sun Oil Company...	3	736	5,154
Suttle et al	1	81	567
The Texas Company	5	471	3,294
Turman & Brown ..	1	121	846
Total 130		34,969	244,783

Daily average per well...269 barrels

Since October, 1928, Salt Flat has produced as follows:

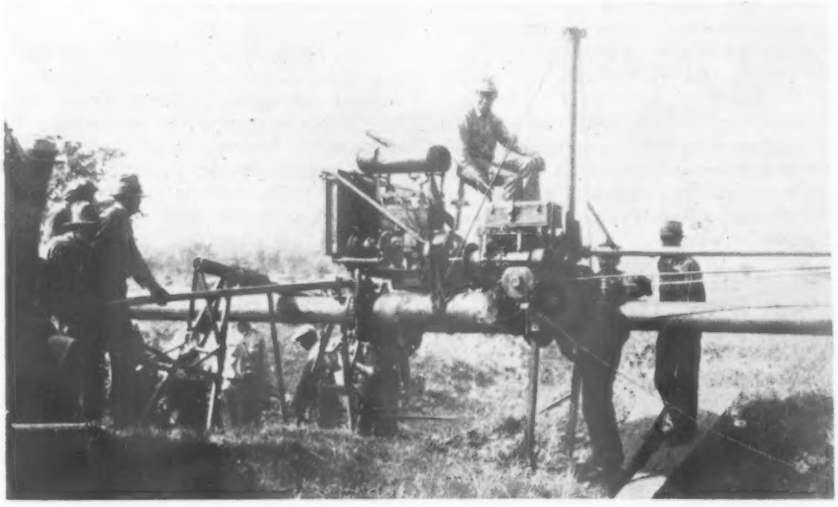
Month	Barrels
October, 1928	21,322
November	45,377
December	234,670
January, 1929	498,726
February	641,963
March 1,044,000	
Total 2,486,058	

Up to April 4, 1929, 150 producing wells had been completed.

On April 2 a report on all operations at Salt Flat showed the following:

Locations	5
Derricks 10	
Rigging Up	1
Drilling Wells 35	

On the same day, the field's production amounted to 39,479 barrels, with around 130 wells on production. During the week ending March 29, the field produced 280,163 barrels; an average output during the week of 40,023 barrels.



Pipe on Humble Pipe Line Company's line out of Salt Flat being screwed together and bent by "Mahoney" machine, made by California Pipe Line Machine Company

Production History

The peak of production prior to April 2 was established on March 28, when the field produced 41,076 barrels from 143 wells. On that day Humble Oil & Refining Company led with 12,907 barrels production; Gulf Production Company was second with 12,104 barrels, and Shell Petroleum Corporation was third with 10,967 barrels. The remaining 5098 barrels was produced by The Texas Company, Sun Oil Company, Cranfill & Reynolds and others. For a considerable period earlier this year Shell Petroleum Corporation was leading in production, with Gulf Production Company and Humble Oil & Refining Company following in the order named. Henceforth, it appears that the Humble Oil & Refining Company will continue to lead in production, inasmuch as it has the largest holdings for any single company in the north end of the field, the section which has been drilled only to small extent. Besides its own large holdings, the Humble Oil & Refining Company holds considerable acreage jointly with Luling Oil & Gas Company in the north end of the field.

To give an idea as to the production of the various operators at Salt Flat, a table showing production by companies during the period March 16-22, inclusive, is given herewith.

At work near Waelder, Texas, on Humble Pipe Line Company's line out of Salt Flat, showing Buckeye ditcher, Fordson tractor with W-K-M Company winch and boom. The pipe is being treated with Hill, Hubbell & Company preparation

Salt Flat vs Luling

The old Luling field, with which Salt Flat has been compared above, was discovered August, 1922; reached a peak production of 42,085 barrels (some reports place the peak as high as 60,000 barrels); and up to April 1, 1929, had produced approximately 41,076,000 barrels through the drilling of 597 wells, ranging in depth from 2150 to 2200 feet. Luling is eight miles long, and about one-half mile wide at its widest point. Present production there is approximately 12,500 barrels daily.

Although Salt Flat, like Luling, is producing from Edwards lime, and brings the price, 80 cents per barrel, Salt Flat oil is considerably higher in gravity and is a better grade, showing only 0.80 per cent. sulphur content as compared with considerable sulphur in the Luling crude. Salt Flat crude tests 36.5 to 37.5 gravity, whereas the Luling oil is about 28 to 29 gravity.

Until the latter part of March the only pipe line outlet which the field had was Magnolia Pipe Line Company's system, and that company was buying only a very small percentage of the field's output; the remainder being taken care of through tank car shipments. On March 26 Shell Pipe Line Company, which had built the line principally to take care of the production of the Shell Petroleum Corporation, began running crude through a six-inch line which it had constructed from Salt Flat to connect with the company's new trunk line from West Texas to the Houston Ship Channel. The connection was made at a point about seven miles from Austin, making the total length of the six-inch line out of Salt Flat 37 miles. The main line out of West Texas is completed from Austin to Houston, but has not been completed from Austin west, al-

though work has been progressing on that section also.

Humble Building Line

A third line out of Salt Flat is now being built by the Humble Pipe Line Company, subsidiary of the Humble Oil & Refining Company. That line will be of eight-inch pipe, and will extend to West Columbia, Brazoria County, approximately 120 miles; whence the crude will be moved on by way of Webster to Humble Oil & Refining Company's refinery at Baytown. From West Columbia on to the refinery, the Humble Pipe Line Company has two parallel lines, one of which will be available for carrying the Salt Flat crude.

On the Salt Flat end of the new line Humble Oil & Refining Company is erecting five 80,000-barrel steel tanks on the G. R. Tiller farm, about six miles out of Luling. One of the five was completed on April 1. The line to West Columbia is expected to be in operation about May 10. Construction is in progress in three sections; one crew having a camp near Harwood, south of Luling; and the other two working out of Boling and Columbus. The Harwood section had been completed a total distance of 18 miles on April 1. The pipe was being laid in that section at the rate of about 350 joints per day, with about 35 men on the job; using the "Mahoney" machine, made by the California Pipe Line Machine Company, for screwing together and bending the pipe; a Buckeye ditcher; W-K-M Company's "White" winch and boom and Fordson tractor for handling the pipe back of the ditcher; and products of Hill, Hubble & Company for treating and painting the pipe.

The three principal producers at Salt Flat, Humble Oil & Refining Company, Gulf Production Company and Shell Petroleum Corporation, all have established field offices and camps in the field. Humble Oil & Refining Company camp is the largest of the three. It is on the J. B. Tiller 126-acre lease, and consists of an office, a warehouse, two bunk houses and six residences. Shell Petroleum Corporation's camp is just across a highway from that of the Humble Oil & Refining Company; it is on the Hickman lease, and consists of a warehouse and office, two bunk houses and four residences.

Casing Practice

In the usual drilling operations at Salt Flat, 60 feet of 10-inch surface casing is set and is cemented with 20 sacks of cement. In its wells, the Humble Oil & Refining Company sets 6⅝-inch, seamless, 24-pound, casing at the base of the Georgetown lime, which is just above the top of the Edwards lime. On tests in areas which are only semi-proven or not proven, it is the usual practice to core into the Edwards and set two feet above it. The 6⅝-inch casing is cemented with approximately 100 sacks of cement. After the cement has set, the lime is drilled into with a 6¼-inch bit. The wells are then swabbed or bailed in; usually swabbed. The drilling practices followed by Humble Oil & Refining Company are also followed in general by the other companies.

Shell Petroleum Corporation frequently sets 8¼-inch casing at the top of the Austin chalk, and sets a 6⅝-inch string inside of that to the top of the lime; the purpose being to take in the chalk, too, in cases where it is productive. Gulf Production Company also uses that practice in some cases.

In completing wells, the amount of Edwards lime taken in is from five to 30 feet, depending upon circumstances. Usually the lime has a hard cap just above the water, and so there is little danger of drilling into the water.

Humble Oil & Refining Company's camp at Salt Flat

Very few of the wells have flowed through the 6⅝-inch, there being very little rock pressure in the field. And so the wells are usually tubed with 2½-inch tubing, through which they produce by pumping and flowing.

Humble Oil & Refining Company has had only about seven wells with any gas of consequence. That company's Moses-Baggett A-1 was the largest well of the field that has been completed in the Edwards lime. It had about 125 pounds pressure at the well head, and had initial production of 4500 barrels. Its elevation is 360 feet. It encountered the lime at 2660 feet and drilled 12 feet into it. The only well of the field larger than it, was The Texas Company's Merriweather 1, which came in for 6000 barrels, but which was producing from the Austin chalk. Humble Oil & Refining Company's Moses Baggett B-5, is another of the wells that had more than the usual amount of gas. It came in for 3000 barrels, and had 125 pounds rock pressure; producing from the Edwards lime.

Humble Oil & Refining Company is equipping its wells with 10-thread, seamless, upset tubing conforming with American Petroleum Institute specifications; is pulling rods with W-K-M winches and McCormack Deering tractors; uses plain working barrels and cups; and is using Lufkin pumping units, with 15 x 30 straight induction motors. Central Power & Light Company, a branch of the Texas Power & Light Company, furnishes the electricity where it is used in pumping wells. Gulf Production Company, Shell Petroleum Corporation and Humble Oil & Refining Company have standardized on electric pumping equipment. Sun Oil Company and some independent operators are using gas engines; obtaining natural gas from a line leading out of San Antonio.

Contractors

Practically all of the drilling at Salt Flat, including that of the Humble Oil & Refining Company, Gulf Production Company and the Shell Petroleum Corporation, is done by drilling contractors; the usual rate for drilling wells, with the contracts calling for drilling 50 feet into the lime, is $3 per foot; with the oil companies furnishing the fuel and water. It usually takes about 30 days to drill and complete a well—including time for rigging up, drilling and cementing. The total cost per well, just for completion, is approximately $23,000. As stated above, the wells seldom come in flowing; and those that do come in flowing, flow on an average of only about 20 days.

Most of the wells in the field are making water along with the oil; the water content varying from five to 90 per cent. The water is treated out successfully by using either heat or chemicals.

Although electricity is used largely in pumping wells, there is only one electric drilling rig in the field. It belongs to Lynd & Hartmangruber, contractors. Other drilling is with steam rigs, using oil for fuel.

Possibilities for Edwards lime production in the Salt Flat area were considered seriously as early as the spring of 1928; and in the following summer there was a concerted scramble for leases by numerous companies and independent operators, resulting in division of leases among numerous concerns and individuals. The basis for the play in leases and royalties at that time was the favorable indication given through a correlation of logs of several tests in the vicinity; one on the north side and three on the south side of the fault as it has since been outlined.

In the southern part of the present field, Rayor et al's Walker 1, drilled about four years ago, hit the Edwards lime low, being on the north side of the fault. Considerably farther north, near the present

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New Type Pipe Line Weld Joint *Takes Care of Expansion*

By H. H. KING
Staff Representative

FORT WORTH, Texas.—A new type of welded joint has been used by the Gulf Pipe Line Company in the construction of an extension from its West Texas trunk line system from Midland Junction to the Hendrick field, West Texas district. Construction work on this extension line, which included about 60 miles of 10-inch welded pipe and 18 miles of combination welded and screwed eight-inch line, was completed recently. All the 10-inch pipe used in this line, and a portion of the smaller line is equipped with the National Tube Company's new oil and gas line pipe, equipped with an integral expansion joint and an internal sleeve, which serves to reduce line breaks during extreme temperatures, and affords a rapid and secure weld.

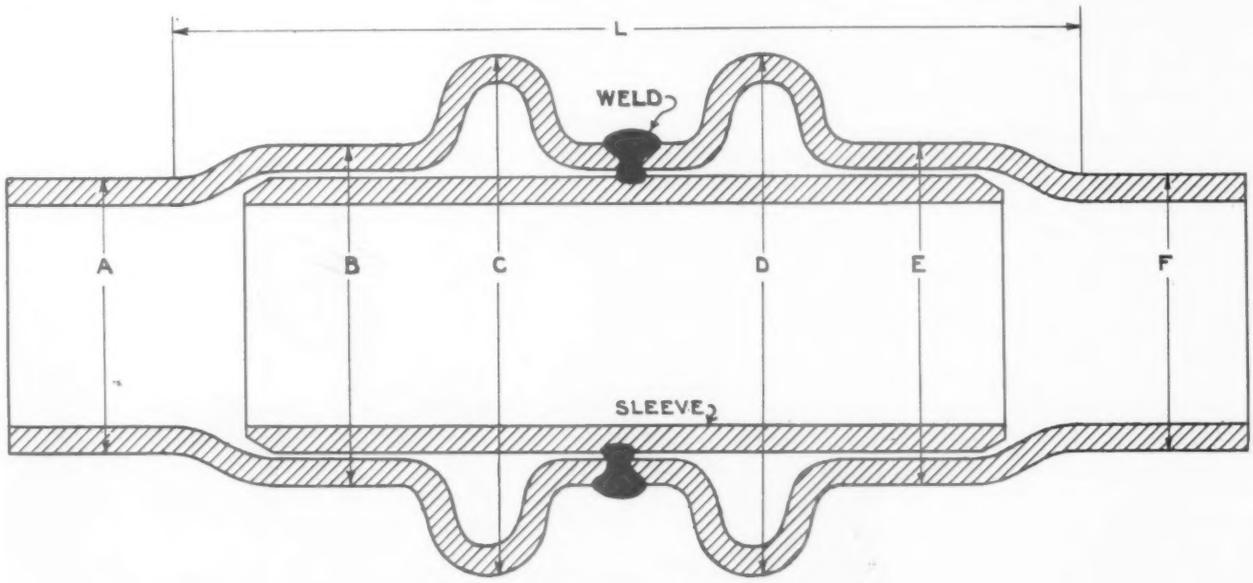
This new pipe joint has been dubbed by pipe liners as the "wrinkle joint" owing to the presence of a wrinkle circling each joint near the end, thereby taking care of the bulk of the expansion and contraction through this wrinkle flattening out, or closing up. The pipe ends are larger than the normal size of the joint in order to permit the insertion of a sleeve, or nipple, which is of the same diameter as the main body of the pipe, with a length about equal to its diameter. This sleeve intersects the two joint ends, forming a bridge, and welders connect the joints, with the sleeve serving as the base for the weld. The interior of the line is of a uniform diameter, and difficulty with "icicles," or protruding welds, is entirely eliminated.

The accompanying sketch shows a cross section of the new type of joint, which is now being marketed by the National Tube Company in all standard sizes for oil or gas transportation, with chart showing variations in the dimensions during the expansion and contraction of each section of the joint when given mill tests for tensile strength. Test data shown applies to 10-inch, 34¼-pound seamless line pipe. On an internal water pressure test that portion of the joint indicated by "L" registered an elongation of .03125-inch when subjected to 500 pounds pressure per square inch, and .125-inch at 900 pounds. The pressure was relieved slowly at this point to 750 pounds, and the joint returned about .01 of an inch, with an elongation of .115-inch remaining. The joint returned about .02-inch more when the pressure was lowered to 500 pounds, and .03-inch additional with pressure released to 300 pounds per square inch. At 1000 pounds pressure, which was determined on a retest, the joint registered an elongation of .171875-inch, and slow release of pressure resulted in the joint returning 3/64-inch, with a set of 1/8-inch.

This type of pipe line joint is first made and tested similar to that of regular pipe by the mill. It is then heated and upsetted to permit the insertion of the die that forms the wrinkle at the ends. Original wall thickness is retained by the pipe at the wrinkle through this shaping process, thereby giving slightly more poundage of steel on overall length as compared to a regular pipe.

The "wrinkle joint" is credited with giving about twice the amount of expansion and contraction that is available in regular butt weld, or plain end pipe. The amount of slack used in the

(Continued on page 40)



DIMENSIONS OF JOINT BEFORE AND AFTER TEST

	A	B	C	WELD	D	E	F
BEFORE	10.75	11.53	13.65	11.71	13.70	11.53	10.76
AFTER	10.68	11.37	11.95	11.61	11.98	11.44	10.75

View of Elwood Structure from Pacific Ocean

Elwood

Location provides every means of transportation; production is shallow and the oil is high gravity with high gasoline content

"IN all the world, no field like this," might be a good way to describe Elwood field, which lies along the Pacific Ocean, about 12 miles west of Santa Barbara. Ideally located on navigable water, only a stone's throw from a trunk railway and a few hundred feet from a paved highway, the field offers every advantage that could be expected.

An airplane view of the field, showing the wells quietly flowing to the storage tanks, ocean tankers loading with a minimum effort, and a surface appearance resembling a park, reveals a field often fancied but seldom seen.

Flanked by the ocean, under which fully half of the structure probably lies, and extending back from the coast on a gently rolling terrace the surface of the field more resembles a picnic ground than a great potential producer.

When news was flashed on July 26 that a 2500-barrel, high gravity well had been completed at only 3208 feet, many geologists and operators were surprised. Presence of the structure was known for several years, but leading oil companies had shied away from it. Folds where the terrace ends and the beach begins are plainly seen from the beach, but previous experiences in fields which produced small quantities of light oil in Santa Barbara County had not been satisfactory. There was not enough evidence of a proper closure to warrant drilling, some companies thought.

It remained for the Rio Grande Oil Company and the Barnsdall Oil Company of California to take the step which led to the discovery. On a point near the beach and as near the apex of the supposed structure as was possible, Luton-Bell 1 was located. An oil sand was found below 3000 feet. A single string of casing was run, the well cemented and placed on production with a 2500-barrel flow of 38 gravity oil.

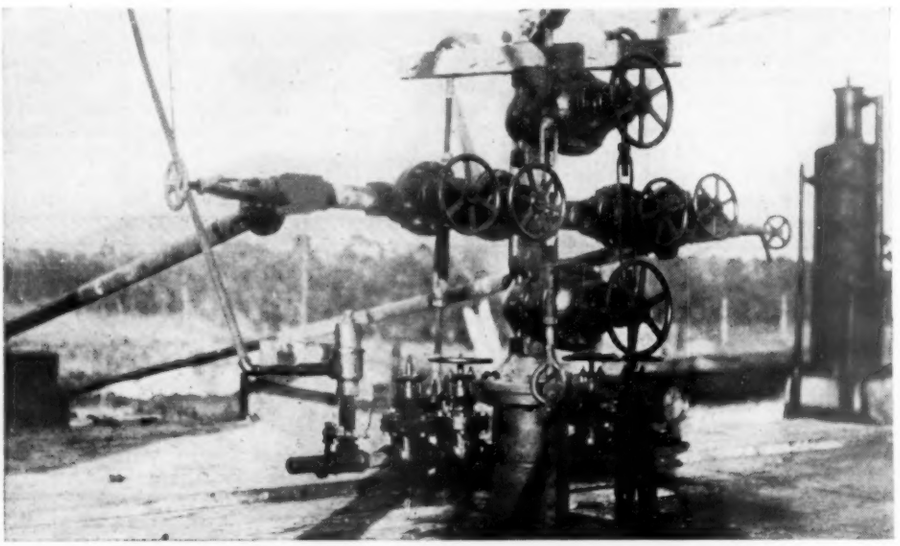
The usual rush for the new area was begun, but major operators were rather disappointed to find that the comparatively new companies that had quietly "scooped" them were firmly entrenched with about 800 acres all over the structure. They started negotiations with the discoverers for acreage but had to be content with the purchase of edge leases, which offered a remote chance of production. The sale of these edge leases ran almost to seven figures and started the discoverers off with a clean slate and the best leases.

Production from Vaqueros

Production in the Elwood field comes from the Vaqueros sand, a soft, fine-grained sandstone. Its thickness is expected to exceed 300 feet, with 400 feet as the maximum. Some of the wells completed have included almost 250 feet of sand, with no trace of bottom water. Nearby exposures disclose a thickness of about 300 feet. Above the Vaqueros formation lies a huge thickness of brown and gray shales, commonly known as the Monterey shale. Surface indications point to a crushed, slightly irregular condition, but F. A. Morgan, who is more or less responsible for the discovery of the field, contended that the folds would be more uniform at a fair depth and probably had acted as a trap for oil. He proved correct in his deductions, results of his report on the structure having justified his claims. The anticline promises to roughly parallel the ocean, with a large part of it under deep water. It is too early to trace faults, even if any exist. The maximum producing acreage may run as high as 600 acres or may fall as low as 300 acres.

The question of recoverable oil has been studied, but only rough estimates can be made. Assuming that the oil sand is 300 to 400 feet thick and that the saturation is practically complete, it may be possible to produce more than 200,000 barrels per acre from the field, using a 25-30 per cent. porosity. An analysis of the sand shows a high uniformity and indicates the percentage of recovery will be high.

Drilling conditions are nearly ideal.



Hook-up on Luton-Bell 1, discovery well in the Elwood field

—Such Fields Seldom Seen

By BRAD MILLS
Staff Representative

A Union Oil Company tanker loading oil from the Elwood field

The oil sand is found from 3100 feet to perhaps 3600 feet, in some parts of the field. No water is encountered from the surface to final completion. Only one string of casing is required—that which effects the final shutoff on top of the oil sand. A short string of conductor pipe, sometimes is run to a few hundred feet.

Actual drilling time on a representative well is about three weeks, with cementing and other incidental time making the total elapsed time about 30 days. The first well was drilled with steam, but electricity is almost exclusively used for all operations now.

Hook-up Method

The oil averages above 38 gravity and has an asphalt base. It is about 40 per cent. gasoline. The average well cut is less than two-tenths of one per cent., making the oil the cleanest ever found in California. The gas-oil ratio is so nearly correct that a uniform flow of all wells completed is maintained. Gas production runs around 2,000,000 cubic feet per well. Casing pressure often runs 1200 pounds. All wells are flowed through very small beans to insure control and to eliminate danger from water. If produced at a maximum rate, production would run much higher.

The well hook-up is simple, but effective, safety being one of the chief factors in the design. A heavy flange is screwed onto the top of the 8⅝-inch shutoff string, with another swedged flange attached to take the four-inch gate valve. Above this gate is a nipple and four-inch tee. A double flow line leads from the tee, two heavy gate valves being used on each flow line between the tee and the Shaffer flow beans. The well may be produced through either or both flow lines. Above the four-inch tee and immediately below the clamp and bull plug is another four-inch gate valve. Two casing clamps are used. A couple of two-inch connections are made in the top of the casing. One of these connections contains a pressure gauge, while the other cares for a safety valve. Double gate valves are used on both these small lines.

The tankage problem has been solved efficiently and satisfactorily to both co-operators. The oil first flows into 500-barrel tanks, a small battery for each well, and then is pumped into a central battery of 1000 and 1800-barrel tanks on each of the two leases. From these batteries, it is pumped to two 80,000 and two 120,000-barrel tanks. It is gauged three times, each gauge being checked against the others.

Transportation Facilities

The natural lay of the leases makes for efficient loading facilities. Large storage tanks have been placed so that oil is partially loaded by gravity. A 3100-foot, 10-inch pipe line has been laid on the bottom of the ocean to a point where the largest ocean tankers may load. Electric motors, connected in series, are capable of loading oil at the rate of 6800 barrels per hour.

Much of the oil is shipped by rail, a series of loading racks having been built for this method of transportation.

A surprisingly large amount of the oil is hauled 110 miles by truck to Los Angeles.

The gasoline content is high enough to make such a long haul profitable, even after a high price has been paid for the oil.

Ships regularly call for all available oil, taking away as high as 80,000 barrels per trip. Refineries at Los Angeles and San Francisco, as well as those in the Orient, are in the market for Elwood oil.

With such loading and transportation facilities, it is doubtful whether it will be necessary to build a major pipe line from the field.

History of Completions

Six wells have been completed since the field was discovered seven months ago. A table, showing the data on each well, follows:

Well No.	Initial Prod.	Grav.	Cut	Depth	Date Comp.
Luton-bell 1	...2500	38.2	0.2	3208	7-26-28
Luton-Bell 2	...4865	38.9	0.1	3403	11- 3-28
Doty 1	4800	38.4	0.1	3386	11-10-28
Luton-Bell 3	...5500	38.5	0.2	3317	12-17-28
Doty 2	4200	38.6	0.2	3490	1-14-29
Luton-Bell 5	...6000	38.2	0.1	3373	1-31-29

Present production is about 24,000 barrels. No individual well has shown an appreciable decline from the initial, although some have been cut back slightly.

Depletion will take its toll, but it seems that a production of 50,000 barrels daily is likely before waning gas pressure is reflected in a lower yield. The drilling program calls for one well per month, the rate at which they have been completed in the past.

Barnsdall Oil Company and Rio Grande Company have constructed a substantial camp along the highway, the layout resembling a small town more than lease headquarters.

The discovery well was drilled on the Bell ranch, which dates back to 1842, when it was acquired by Nicolas A. Den, an Irish emigrant and grandfather of the present owners. It was originally known as the Dos Pueblos, meaning two villages, having been the home of two Indian tribes. Upon the death of Den, in 1862, the ranch passed to his daughter, Catherine, who later married John S. Bell. Mrs. Bell died in 1926, leaving the oil ranch to her children.

You Talk in Big Figures

When You Talk of Venezuela

By R. E. LEIGH
Special Foreign Representative

MARACAIBO, Venezuela, March 15 (By mail).—One becomes accustomed to dealing with large, well-rounded figures in discussing the Venezuelan oil situation. For example, the potential production of the Maracaibo Basin—if intensively developed under favorable market conditions—is loosely estimated at 1,000,000 barrels of oil per day; current production is exceeding 10,000,000 barrels per month; at least 24 gushers have produced more than 1,000,000 barrels each; the Lagunillas field, not yet three years old, has produced more than 105,000,000 barrels of oil; and the Maracaibo Basin has produced a cumulative total of more than 265,000,000 barrels of oil. Millions of dollars have been spent to find and produce this oil; wildcat wells drilled out in the hinterland often cost a million dollars, or more, each.

Lagunillas Passes 100-Million Mark

The Lagunillas field, situated in the District of Bolivar on the northeastern shore of Lake Maracaibo, and one of the youngest of the more important Venezuelan oil fields, passed the 100-million mark early in February, of this year; and, despite drastic restrictions now in effect, it will have produced more than 111 million barrels of oil by the time this is put in print.

Lagunillas is a remarkable oil field, probably one of the most efficient oil operations in the world. Being controlled by the three large companies (Lago, Gulf, and Shell), who employ only the best in men, material, and methods, it promises to eclipse many if not all of the production records held by the most prolific oil fields of the United States. With a current average production of around 6,000,000 barrels per month, this fertile field is probably not producing more than half its potential capacity. Its proven area is about seven miles long by one and one-half miles wide—development having followed the competitive boundaries of the Gulf-Shell and Gulf-Lago boundaries paralleling the lakeshore; but its boundaries are wide open and undefined on all sides. The Venezuela Oil Concessions (Shell subsidiary) drilled two or three dry holes at points from 10 to 15 kilometers inshore several years before the field was discovered by the Venezuela Gulf Oil Company in May, 1926; but there is as yet no inkling of how far the productive area may extend offshore into the lake-bed holdings of the Lago Petroleum Company. Lago Petroleum Company, which controls the lake bed, and the Venezuela Oil Concessions, which owns the land extending inland from the shore, are concerned only with the protection of their boundaries against drainage by Venezuela-Gulf Oil Company which owns several fertile parcels in the Marine Zone which entirely surrounds Maracaibo Lake, its outside boundary being the shore line and its inside boundary being a line paralleling the shore line at a distance of one kilometer offshore. Neither is likely to extend developments into non-competitive areas so long as overproduction continues. The southern boundary of the field, as at present marked by flowing wells, is protected by a restriction agreement to which all three companies are said to be signatory; so it is also unlikely that there will be any further extension along the undrilled competitive boundaries until conditions are improved.

ROY E. LEIGH

Mr. Leigh, who is making a world-wide tour of oil fields for The Oil Weekly, has completed his study of the Venezuelan situation, which appears in this and other articles to follow, and is now enroute to Columbia where he will continue his investigation of South American oil conditions.

La Rosa Approaching 100 Million Barrels

It now seems apparent that the northern boundary of the Lagunillas field may be extended to connect with the Punta Benitez field, which lies between it and the La Rosa-Ambrosio fields, which have already been joined by prospect wells drilled by Venezuelan Oil Concessions. Thus, the entire Bolivar lake-shore may in the course of time be developed into one vast oil field of tremendous fertility and vast possibilities.

The La Rosa field, which alone had produced approximately 85 million barrels of oil as of March 1, is approaching the 100-million mark at the rate of 2,000,000 barrels per month; and, in the absence of a possible shut-down agreement, may be expected to reach that total before the end of the year.

However, there is a limit to all things; and it is becoming clearly apparent that even the three big interests who are developing this area have reached the limit of their vast resources. As great as may be the refining capacities of the Shell, Standard of Indiana and Gulf groups, they cannot cope with this veritable flood of Venezuelan oil in addition to their commitments in other fields where overproduction also obtains in many instances. Under such conditions, none of these companies can consume all of its Venezuelan production; and all must look for relief to non-affiliated refineries situated along the Atlantic Seaboard and in Europe. Reports from New York are to the effect that Venezuelan crude is practically unsaleable on the seaboard market; and, even if it were, there are no facilities for shipping and storing oil in excess of current averages. Lago Petroleum Company has had some relief brought about by the construction of great quantities of additional storage at Aruba. D. W. I., and Punta Tamares, in Venezuela; but all of this new storage is now full, or will be as soon as a few remaining 80s are completed; and it is no secret that a condition of distress obtains.

The three companies have been driving ahead under full steam since their combined operations were expanded from 40

(Continued on page 40)

Surveys of Well Wanderings Aid to Engineers

Information given makes possible correct correlation of strata and points great need for correction of crooked hole situation

By ALEXANDER ANDERSON
Fullerton, California

THE tables given in this paper may be of interest to those operators, petroleum engineers and geologists who are not familiar with oil well surveys.

In many oil fields a great variation in the production of adjoining wells has long been noticed, and a certain propertion of dry holes, situated between prolific producers, have been regarded as normal without thorough investigation as to cause.

Similarly, an occasional prolific producer has been found in a part of a field where all other holes have proven disappointing.

Adjoining wells which showed an unreasonable difference in their production have been surveyed, and the bottom of the poorer producer has been found to have lost sufficient vertical depth, through its drift, to seriously diminish its penetration in the oil zone. Again, the bottom of the good producer has been found to be more favorably situated by its migration up structure.

Surveying of wells in California fields has shown in many instances where the dry hole has drifted far off the structure to such a degree that no amount of deepening could ever convert it into an oil well. In other cases, edge wells have been found to drift into the field.

At this time, in California the surveying of oil wells is beginning to be accepted as a routine part of operating procedure. Some operators are surveying all of their new wells and, in some of the recently discovered fields, this practice is providing invaluable assistance in methodical development.

The information that has been obtained from the surveying of many wells has convinced most operators that it pays to give careful attention to the drilling of wells. Crews are now usually cautioned to avoid reckless competition with each other. Whereas, formerly, certain companies demanded a large footage from their drillers, they now issue orders that a very moderate speed in drilling shall be maintained and every care be taken to avoid practices likely to cause excessive deviation of the hole from vertical.

As a result of these new instructions to drilling crews, a distinct decline in the average drift of the wells drilled by these operators has taken place and fewer dry holes are being drilled from good locations.

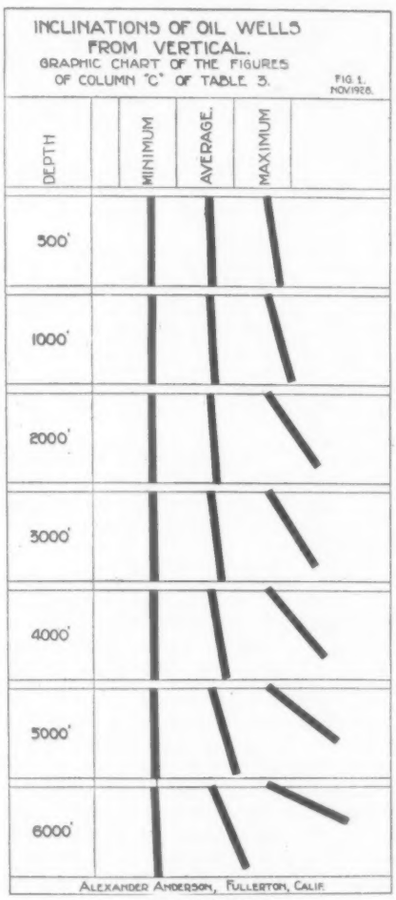


FIGURE 1

To the petroleum engineer and the geologist, oil well surveys provide the necessary data required for the construction of the correct cross sections and enable true correlations to be worked out. Where re-pressuring of sands is being considered an exact knowledge of the position of the wells at bottom is extremely valuable.

To those responsible for running casing, the survey provides information showing at which points the casing is liable to stick and enables an intelligent reaming program to be carried out.

To those who are contemplating the financing of a partly drilled well, a survey will show whether the well is taking a favorable direction.

To the wildcatter, a survey will show whether the test well was reasonably vertical or whether it drifted off structure and did not constitute a test.

Where a considerable number of dips have been obtained from cores distributed throughout the depth of the well, and where the survey shows that the well has attained a high inclination, or has a moderate inclination and a considerable change in direction, it is sometimes possible to determine the amount and direction of dip of the strata.

The surveying of a discovery well may disclose valuable information as to probability of other wells making similar production.

The above remarks and the following notes, which accompany the facts presented in the tables and figures of this paper, may be stated at the outset to be of very incomplete character.

Although the writer has been exclusively engaged in surveying oil wells for several years, he believes that many of the features and uses of oil well surveys could be better dealt with by some of the men whose business it is to utilize them in their work.

No complete reproductions of any surveys have been included in this paper but several[1] of the writer's surveys have been published.

Survey Apparatus

The apparatus employed in making the surveys mentioned in this paper comprises a photographic recording mechanism enclosed in a water-tight

[1]List of publications showing maps.

"Surveying Oil Wells with Anderson Apparatus," by F. M. Smith. Engineering and Mining Journal, February 6th, 1926.

"An Interesting Example of a Survey of a Deep Bore Hole," by F. S. Hudson and N. L. Taliaferro. Bulletin of the Amrican Association of Petroleum Geologists. Vol. X, No. 8, August, 1926.

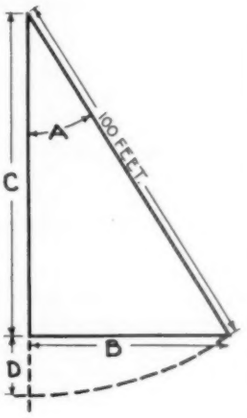
"Underground Survey of World's Deepest Well," by Alexander Anderson. Oil Age, September, 1926.

"Long Beach Oil Field," by D. C. Roberts. Summary of Operations California Oil Fields. Vol. 13, No. 11, of The Thirteenth Annual Report State Oil and Gas Supervisor, May, 1928.

HORIZONTAL DRIFT & VERTICAL DEPTH PER 100 FEET OF MEASURED DEPTH AT DIFFERENT INCLINATIONS FROM VERTICAL.

TABLE 1.
NOV. 1928.

A. INCLINATION OF HOLE FROM VERTICAL.	B. HORIZONTAL DRIFT PER 100 FT. OF HOLE.	C. VERTICAL DEPTH DRILLED PER 100 FEET OF HOLE.	D. LOSS IN VERTICAL DEPTH PER 100 FT. OF HOLE.
0°	0.0	100.0	0.0
5°	8.7	99.6	0.4
10°	17.4	98.5	1.5
15°	25.9	96.6	3.4
20°	34.2	94.0	6.0
25°	42.3	90.6	9.4
30°	50.0	86.6	13.4
35°	57.4	81.9	18.1
40°	64.3	76.6	23.4
45°	70.7	70.7	29.3
50°	76.6	64.3	35.7
55°	81.9	57.4	42.6
60°	86.6	50.0	50.0
65°	90.6	42.3	57.7
70°	94.0	34.2	65.8
75°	96.6	25.9	74.1



ALEXANDER ANDERSON FULLERTON, CALIF.

casing and adapted to be run into the well on the end of a string of drill pipe or tubing. With the standard apparatus, 88 consecutive readings for inclination and direction of inclination may be taken during one lowering into the well. One reading is generally taken after each stand of pipe is lowered, or say, about 12 readings per thousand feet of hole. Usually, 12 readings per hour are taken in a well.

Vertical angles are read to approximately the nearest 10 minutes and directions to about 3 degrees.

A full description of the apparatus and methods will be published at a later date when patent office drawings are available.

The writer has now surveyed 2,000,000 feet of rotary hole. In the surveying of this footage the apparatus was run in about 800,000 feet of open hole. On no occasion has the apparatus ever been stuck, nor has any tendency to stick ever been observed. The apparatus is supplied with holes permitting circulation and occasionally the mud in a well has been reconditioned by circlating after the apparatus has reached bottom.

Operators often check the inclination of their wells with the acid bottle and by observing changes in the apparent dip shown by cores. It has not always been found to be safe to run a bailer into open hole for the purpose of taking an acid bottle reading.

The maximum, minimum and average values of drift and inclination over a total of 1,158,542 feet of rotary hole are given in Table 3.

The inclinations and drifts shown as maximum in this table are limited by the fact that the survey apparatus was originally designed to record inclinations up to 54 degrees from the vertical and was later modified to measure inclinations to 65 degrees from vertical. As a consequence, the largest inclination from the vertical is shown as 65 degrees 15 minutes.

In about a dozen of the rotary holes included in the table, the survey ceased after the holes had reached an inclination between 54 and 65 degrees from the vertical and the inclinations and directions of the lower portions of these particular wells are, therefore, not known.

Some of these holes were uniformly increasing in inclination with depth, and it seems certain that several of them became horizontal or pointed upward at bottom.

In one case where a bailer coud not be run to the bottom of a rotary hole when surveyed, the hole was found to have an inclination of 60 degrees from vertical at the point where the bailer had stopped.

This well was increasing in its inclination and the operator judges from the cores obtained that it probably reached a horizontal position. The survey showed that the hole had drifted completely off the structure and the point where the survey stopped was already many hundreds of feet outside the limits of the field.

A graphic illustration of the figures of column "C" of Table 3 is presented in Figure 1. The increase of inclination with depth shown in the maximum column is interesting, but should not be interpreted without some further explanation.

In compiling Table 3, it so happened that the maximum inclination at each listed depth provided the logical-looking sequence so easily grasped by inspection of Figure 1. But it should be noted that, in a considerable number of cases, wells, which were finished at intermediate points between the seven listed depths, attained very much larger inclinations than the table happens to indicate; in several cases wells finished between the depths of 3000 and 6000 feet attained an inclination of 50 degrees or more.

Influence of Bad Wells on Table 3

A certain proportion of the surveys of Table 3 were made to investigate wells which had proven disappointing. Most of the disappointing results were due to excessive drift of the holes.

Owing to the inclusion of an undue proportion of bad wells, the averages shown in Table 3, both for drift and inclination, are probably about 25 per cent. greater than the true averages that might be expected from a similar number of wells chosen at random in the same fields, and drilled at about the same date.

In spite of the fact that the averages of Table 3 are higher than normal for the particular fields from which they

were drawn[2], there are fields in California where the average drift is probably greater than the averages of Table 3, and there are yet other fields where the drift is undoubtedly a good deal less.

Loss in Vertical Depth Caused by Drift

Table 4 was compiled from the same wells as Table 3, and includes a similar footage of rotary hole.

To make Table 4 strictly comparable with Table 3, the difference between the measured depth and vertical depth of each well at 1000, 2000, 3000, feet, etc., should have been tabulated, but this was not done: in compiling Table 4, only the difference at bottom between the measured depth and the vertical depth of each well was taken.

It will be noted that the average loss in depth of wells finished between 3000 feet and 400 feet is 39.8 feet as compared with 38.4 feet in the wells finished between 4000 feet and 5000 feet. The apparent contradiction in these figures is due to the influence of a few wells of exceptionally large drift finished between 3000 feet and 4000 feet.

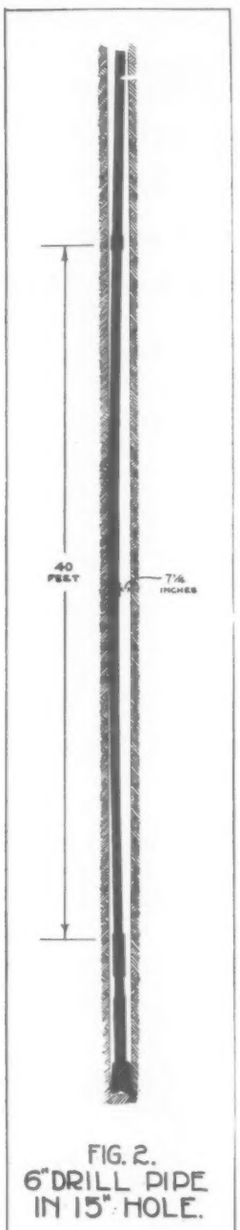


FIG. 2.
6" DRILL PIPE
IN 15" HOLE.

FIGURE 2

Table 1 shows the relation between the three sides of a right-angle triangle on which the hypothenuse represents a portion of an inclined hole.

Without the assistance of a table of this kind, it is not easy to realize the simple facts shown in it; for instance, when a well is drifting horizontally 90.6 feet with each 100 feet drilled, it is still making a vertical penetration of 42.3 feet.

The drift of a well is not necessarily indicative of its vertical depth. A deep well may attain a considerable drift because it reaches an inclination such as 5 degrees a few hundred feet below the derrick floor and continues to have approximately the same inclination to bottom. Another well may remain nearly vertical to a much greater depth and may then attain a similar drift because a part of the hole near bottom has a high inclination. The figures of Table 1 show that a well with a uniform inclination of 5 degrees will only lose vertical depth at the rate of 0.4 feet per 100 feet of measured depth, whereas, a part of a well with an inclination of 30 degrees loses 13.4 feet per 100. The loss in vertical depth in 100 feet of hole, which is inclined at 30 degrees from the vertical is, therefore, equivalent to the loss in vertical depth of 3350 feet of hole is inclined at 5 degrees from the vertical.

The Influence of Loss in Vertical Depth on Correlations

Taking an extreme case from Table 4 where one well is shown to have lost 335 feet in vertical depth at a measured depth between 3000 and 4000 feet, it is evident that any correlation based on the assumption that the measured depth of the well corresponded to its vertical depth would usually be at least 335 feet out. However, in most cases, the error in correlation would generally be very much greater than 335 feet because, to attain a loss of 335 feet in depth, this well drifted 966 feet from the vertical. For purposes of correct correlation, the position of the bottom of the hole must be taken into account and, if a deepening or re-drilling job is being considered, the inclination and direction of the hole at bottom are also important factors.

Curvature of Rotary Holes

Severe kinks and bad places, where a sudden large change in inclination takes place in a rotary hole, are occasionally shown by a survey. To bring out the full detail of these parts, survey readings must be taken at short intervals.

The most interesting features of curvature in rotary holes are, however, the moderate and continued bends which are mainly responsible for developing great drift and inclination in wells.

The holes "A" and "B" shown in Figure 4 are holes of large drift, and neither of them shows any large change in direction of drift.

Each of these wells was projected on to a vertical plane which included the mouth and the bototm of the hole: the projections are, therefore, practically exact facsimiles of the hole.

In each of these wells there is a portion of the hole, a-a in hole "A" and b-b in hole "B," in which the curvature is constant; each of these parts is, therefore, a segment of a circle.

The radius of the part a-a of hole "A" is 2290 feet, and the radius of the part b-b of hole "B" is 4115 feet. The curvature of the part a-a of hole "A" is equivalent to a rise R of 1.08 inches (0.09 feet) in a length of 40 feet, or say a length equivalent to about two joints of drill pipe. The great drift of hole "A" is mainly due to the increase in inclination which takes place in the part of the hole a-a. Below the part a-a the inclination remains nearly constant. In hole "B" the curvature of the part b-b also plays an important part. The radius of this segment is 4115 feet and the rise in a 40 foot length of hole is, therefore, 0.6 inches (0.05 feet). Figure 3 is a diagram, the curvature of the holes being too slight to make an effective scale drawing.

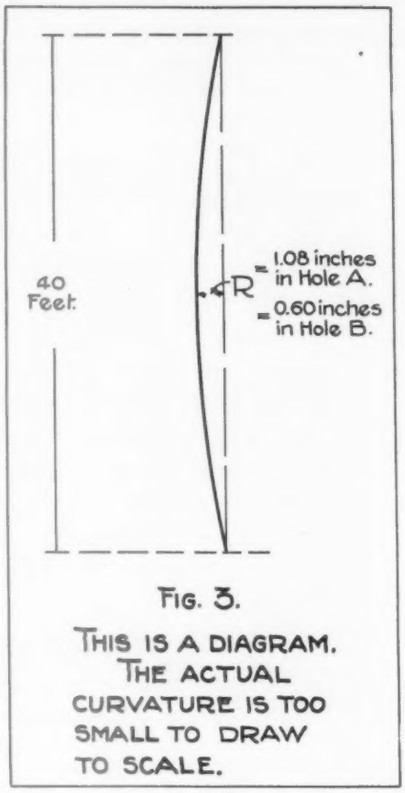


FIG. 3.
THIS IS A DIAGRAM. THE ACTUAL CURVATURE IS TOO SMALL TO DRAW TO SCALE.

FIGURE 3

Holes "A" and "B" are examples of wells which are in perfect mechanical condition, and which have no severe bends, kinks or bad places in them. The inclinations and drifts attained by both of these wells are due to continued slight increase in inclination. To their driller, both of these wells appeared to be perfect, and neither of them gave any indication of drift or curvature to the men on the derrick floor.

Figure 2 is a scale drawing showing a length of six-inch drill pipe inside a hole 15 inches in diameter. The diameter of the tool joints is 7¾ inches.

When a tool joint is resting against one side of the hole, as for instance, the tool joint at the top of the first joint of pipe above the drill collar in Figure 2, the space between the 7¾ inch diameter tool joint and the wall of the 15-inch diameter hole is 7¼ inches.

Why is the curvature of Hole A only 1.08 inches in 40 feet of hole when a

[2]Seventy per cent of the footage of this table was surveyed in the Signal Hill Field, Los Angeles County, California.

DRIFT & INCLINATION OF OIL WELLS

TABLE NO. 3
NOVEMBER-1928

SOME DATA FROM UNDERGROUND SURVEYS OF 255 ROTARY DRILLED HOLES
MAINLY IN CALIFORNIA- 1,158,542 FEET OF HOLE & 13,150 INDIVIDUAL SURVEY READINGS.

No OF HOLES	A DEPTH IN FEET	B HORIZONTAL DISTANCE FROM MOUTH TO BOTTOM OF HOLE (IN FEET)			C INCLINATION OF HOLE FROM VERTICAL IN DEGREES & FEET PER 100			D AMOUNT OF DRIFT FROM VERTICAL (IN FEET)		
		MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM	AVERAGE
255	500	37	0	8.7	8° 20' 14.5ft per 100	0° 00'	2° 09' 3.8ft per 100	114	0	10.6
255	1000	131	2	30.2	15° 30' 26.7ft per 100	0° 00'	3° 05' 5.4ft per 100	131	0	34.4
243	2000	455	9	89.2	34° 15' 56.3ft per 100	0° 10' 0.3ft per 100	4° 05' 7.1ft per 100	457	1.5	104.5
219	3000	845	9	119.5	32° 15' 53.4ft per 100	0° 30' 0.9ft per 100	6° 42' 11.7ft per 100	850	47.0	204.9
163	4000	1036	6	256.5	40° 15 64.6ft per 100	0° 30' 0.9ft per 100	9° 00' 15.6ft per 100	1285	77.6	307.7
104	5000	1752	28	396.8	52° 00' 78.8ft per 100	0° 30' 0.9ft per 100	15° 44' 27.2ft per 100	1815	91.0	515.9
38	6000	2200	74	589.4	65° 15' 90.8ft per 100	2° 30' 4.4ft per 100	22° 25' 38.1ft per 100	2228	357.0	793.1

THIS TABLE THE SURVEYS, THE METHODS & APPARATUS EMPLOYED, ARE BY
ALEXANDER ANDERSON, MINING & PETROLEUM ENGINEER
FULLERTON, CALIFORNIA.

EXPLANATION OF TERMS:
"B"- IS THE HORIZONTAL DISTANCE BETWEEN A VERTICAL LINE THRO THE MOUTH OF THE HOLE AND A VERTICAL LINE TO THE HOLE AT THE LISTED DEPTH.
"C"- IS THE INCLINATION FROM VERTICAL AT THE LISTED DEPTH.
"D"- IS THE TOTAL DRIFT FROM VERTICAL DOWN TO THE LISTED DEPTH.
IN THE CASE OF A WELL DRIFTING IN THE SAME DIRECTION FROM MOUTH TO BOTTOM "B" & "D" WOULD BE EQUAL.

TABLE NO. 3

very much larger space between the tool joints and the wall of the hole is available? In Figure 2 the free space between the wall of the hole and the tool joint is seen to be 7¼ inches and, although the dimensions of Figure 2 are probably not the same as the relative dimensions between hole diameter and drill pipe in Hole A, it is obvious that the space available in Hole A was much greater than that utilized in the curvature of the hole.

The greatest continuous curvature that the writer has observed in a rotary hole amounted to 1.44 inches (0.12 feet) in a length of 40 feet of hole. This is approximately equivalent to an increase in inclination of 1 degree with each 30 feet of hole or, say, an increase in inclination of 3 degrees per 90 foot stand of pipe.

Apparently, the relative proportions of the diameter of the tool joints and drill pipe is not the only factor, or even the most important factor in the determination of the curvature of a rotary hole.

When weight is placed on the drill bit in a vertical hole, the drill pipe is obviously cramped down in the hole and each tool joint finds support against the walls of the hole. When drilling commences, it seems probable that the drill pipe is wrapped around the interior of the hole in a spiral form and that the spiral rotates as a whole and, at the same time, the pipe itself rotates.

Occasionally, a fishtail bit will become flattended against side of the hole and the rotation of the pipe itself will be stopped while the rotation of the pipe as a spiral will continue.

When the above occurs, the fishtail bit will cut an annular hole, leaving a core standing up in the center of the hole. The outside of the bit soon becomes ground away to a segment of a circle and the projecting core wears a groove in the inner side of the bit. (See Figure 5.)

Drilling cannot, of course, continue with the bit in this position: a twist-off will soon take place. This incident

LOSS IN VERTICAL DEPTH CAUSED BY DRIFT IN ROTARY HOLES.

TABLE 4.
NOV. 1928.

MEASURED DEPTH IN FEET. FROM TO	LOSS IN VERTICAL DEPTH IN FEET. MAXIMUM	MINIMUM	AVERAGE
1000 —— 2000	20	0.7	3.4
2000 —— 3000	130	1.0	29.4
3000 —— 4000	335	0.6	39.8
4000 —— 5000	370	4.0	38.4
5000 —— 6000	542	7.0	115.6
OVER —— 6000	620	6.0	169.7

TABLE NO. 4

IN THE FIRST YEAR

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Say you saw it in The OIL WEEKLY

is mentioned here because it proves a case of spiral rotation of the drill pipe.

It is commonly stated that the drill pipe sags down onto the lower side of an inclined hole and thus raises the end of the bit to make the hole go farther and farther out of vertical.

The writer suggests that the drill pipe tends to have a spiral form and that this spiral as a whole, rotates like an attenuated corkscrew within the hole and that the pipe, therefore, does not lie in the bottom of the hole.

If the above suggestion is true, it may help to explain why the usual curvatures found in rotary holes are so very much more moderate than they might be expected to be if the pipe lay in the lower side of the hole.

Direction of Drift of Rotary Holes Relative to the Dip of the Strata

Where the dip of the strata does not exceed 10 degrees, it has been noticed that, at least in some fields, there is a tendency for wells to butt into the structure. Sometimes, for this reason, a well may end up several hundred feet higher on the structure than the position of the derrick would indicate.

Instances of wells butting into the structure have been found even when the dip was known to be 60 degrees and very interesting geologic information has been obtained from cores taken from wells of this kind which traveled into and across a structure at a very flat inclination.

As the dip of the strata gets higher, the proportion of wells which butt into the structure usually becomes smaller. Where the dip is around 25 degrees, a good many wells may follow the direction of the strike and a good many may follow a general down dip direction.

When not too near the edge of the field, a carefully drilled downdip well may make a good producer, but if one of these wells is carelessly drilled, it will frequently be forced completely out of the field and cores taken from such a well may show vertical striation because the well has become parallel with the strata.

When a hole starts to drift off structure and attains a considerable inclination from vertical a few hundred feet below the derrick floor it is usual to find that the direction of the drift is maintained. The plan view of a well of this kind is generally very nearly a straight line, and the drift is frequently enormous.

Wells which start out with a drift along the strike often change direction and may either butt into the structure or run down dip. In some parts of certain fields, adjoining wells show very similar inclinations and direction of drift. In these localities, re-drilling may succeed in lessening the amount of drift but is apt to fail to materially alter the direction of drift.

In other parts of the field there may be a critical depth at which a well will either make a change of direction up or down structure. Under such conditions, when the hole is re-drilled from the critical depth, it may take a more favorable direction.

SURVEY DATA ON WELL "A"

Table 5

Reading Number	Measured Depth In Feet	Vertical Depth In Feet	Inclination From Vertical	Direction of Inclination	Total Drift From Vertical In Feet
7	551	549	8° 40′	S 48° 48′ E	38.06
12	993	985	9° 10′	S 31° 54′ E	109.60
24	2,057	2,019	14° 00′	S 19° 40′ E	359.30
35	3,033	2,968	16° 00′	S 18° 28′ E	589.19
46	4,008	3,807	40° 00′	S 3° 23′ W	1,015.51
57	4,983	4,454	46° 00′	S 8° 18′ W	1,805.56
62	5,379	4,713	48° 00′	S 6° 52′ W	2,100.00

Table 5 gives 7 of the 62 survey readings which were taken in Well "A" of Figure 4.

FIGURE 5—*Cross section of rotary hole showing annular cutting by fishtail bit*

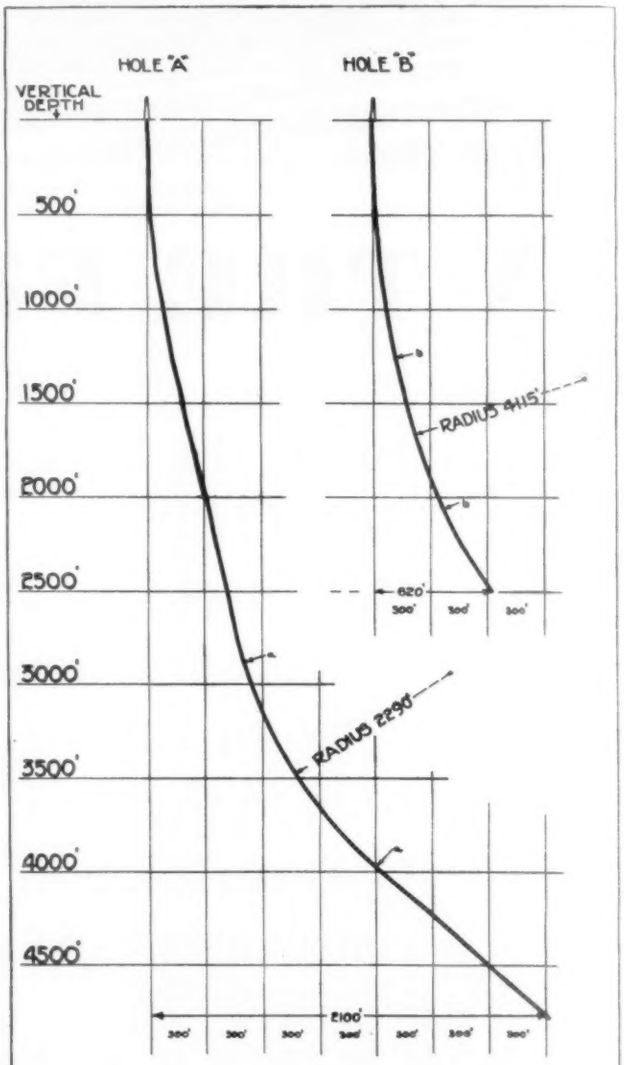

FIG. 4.

VERTICAL PROJECTIONS OF TWO ROTARY HOLES WITH LARGE DRIFT.

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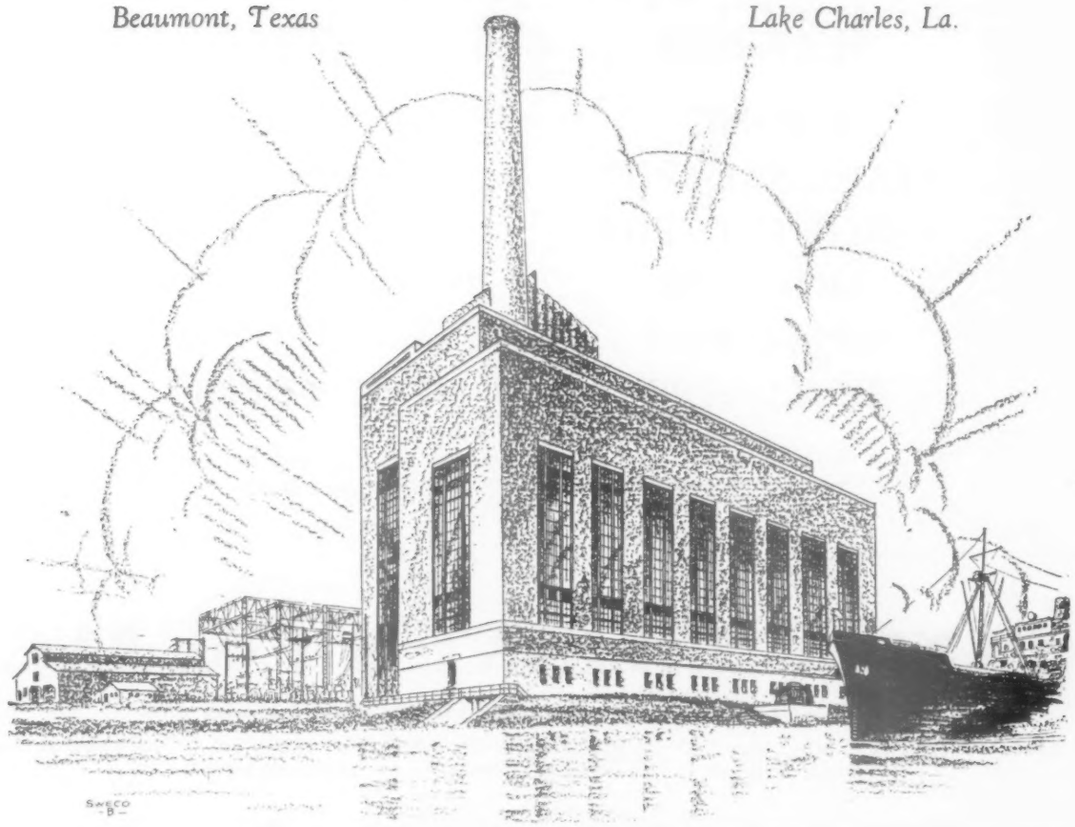

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Say you saw it in The OIL WEEKLY

Greater Movement *Strengthens Market* in West Texas

By H. H. KING
Staff Representative

FORT WORTH, Texas.—Recent extension of two new trunk lines into Winkler County, completion of Shell Pipe Line Company's 10-inch carrier to the Gulf Coast, and booking of additional crude orders by American Petroleum Company and Southern Crude Oil Purchasing Company for heavier tank car shipments, have been major factors in establishing a firmer market situation.

American Petroleum Company, which is marketing the production of the Republic Production Company, an affiliated concern, and buying 4500 barrels daily from the Texas State Oil Company and Cranfill Brothers Oil Company in the Hendrick field, doubled its tank car loadings April 11 for the Louisiana Oil Refining Corporation. American Petroleum Company contracted last February to deliver to the above concern 1,500,000 barrels of Hendrick crude, 5000 barrels daily, and under the new arrangement current deliveries have been doubled, although price terms remain unchanged. It is reported that the Shreveport concern is paying five cents per barrel above the current posted price for all oil delivered on this contract, while the freight rate to the Louisiana plant is 18 cents per 100 pounds.

Ship to Arkansas

Southern Crude Oil Purchasing Company, which controls a greater volume of crude production in Winkler County than any single unit, recently contracted to deliver a minimum of 2000 barrels daily in tank cars to the Camden, Arkansas, refinery of the Houston Oil Company, at 10 cents per barrel above the current posted price f.o.b. cars at the Wickett rack. Deliveries were started when the purchaser gained a 22-cent per 100 pounds freight rate from Wickett to Camden on March 23, and are subject to 30-day cancellation terms by either party to the contract.

Magnolia Pipe Line Company is assured of a full line out of West Texas from current runs over the balance of the year through the extension of its trunk line into Winkler County. This line, which consists of a 63-mile 10-inch extension from Midland station, was put in operation April 12, and feeds into a looped eight-inch carrier from Midland, via De-Leon station to Beaumont terminals. This extension line to Winkler County was built largely to fulfill contracts made recently with Pure Oil Company, involving delivery of about 15,000 barrels daily from latter's Hendrick field leases and storage oil over balance of the year at the posted price. Magnolia Petroleum Company contracted in February, 1929, to take 5000 barrels daily, starting immediately, and arranged to have this oil gathered and transported to Beaumont on a common carrier basis for 60 days by Atlantic Pipe Line Company. Through a joint transportation plan between Magnolia Petroleum Company and Atlantic Oil Producing Company, Pure Pipe Line Company has been shipping 10,000 barrels, more or less, daily, from Hendrick field to its Gulf Coast terminal at Smiths Bluff since February, 1928. Atlantic Pipe Line Company has been gathering and transporting the oil to Magnolia Pipe Line Company's station at Midland, and the latter carrier obtained the long haul to the coast. The original contract, and supplemental ones, aggregate a total of 5,100,000 barrels that Pure Oil Company is to have common carried to the Coast, and final deliveries are scheduled to be completed during the last week in May. Upon the completion of same, Magnolia Petroleum Company then increases its daily purchases from Pure Oil Company from 5000 to 15,000 barrels over the balance of 1929. Pure Oil Company has about 620,000 barrels of oil in field storage to make up production deficits.

Gulf Line Starts

Gulf Pipe Line Company is scheduled to start operating its recently completed combination 10- and eight-inch trunk line extension from Midland station to Winkler County toward the close of the present week, thus removing a portion of its Winkler County oil that has heretofore been available for purchase by any of the responsible buyers serving the fields. However, Gulf Pipe Line Company is crowded for transportation facilities from Midland to Port Arthur, but is starting work promptly on eight-, 10- and 12-inch loops, aggregating more than 400 miles between Midland and Port Arthur, and three new main line stations. In anticipation of this congestion, Gulf Production Company contracted about March 1, 1929, to sell 5000 barrels of Hendrick field crude daily at the prevailing posted prices.

Tidal Refining Company, which is about to enter the West Texas crude market as a transporter of crude for the Tidal Oil Company, an affiliated company, recently acquired the entire gathering system owned by Southern Pipe Line Company in the Church & Fields area, Crane County, and also a 55,000-barrel tank. Tidal Oil Company controls about 4000 barrels of settled production in this field, and this is to be diverted to the Tidewater Oil Company's Atlantic Coast plants by having the Tidal Refining Company gather same, thus saving on usual gathering charges, and have the oil transported by The Texas Pipe Line Company to the Coast for tanker movement. This arrangement has been worked out as a partial effort to meet the growing crude demands of Tidwater Oil Company's plants.

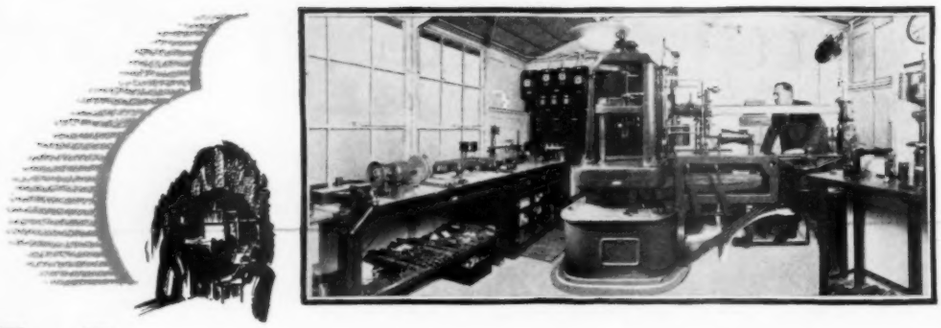
Shell Movement Delayed

Although Shell Pipe Line Company started filling its 10-inch trunk line, which extends from McCamey terminals to refinery and tank farm site at Houston, about April 1, it is not planned to begin heavy movement of crude through this line until construction work on the refinery at the southern terminal is nearing completion. However, regular shipments from the Salt Flat field, Southwest Texas district, which is connected with the above carrier with a six-inch line at Austin, are to be maintained to the Coast. Shell Pipe Line Company began shipping crude through this extension line from its producing properties in the Salt Flat field March 26, and before the end of March had absorbed 40,939 barrels of crude. This movement resulted in Shell Pipe Line Company discontinuing tank car shipments over its Luling rack April 7. For a period, Shell Petroleum Corporation was selling 3000 to 5000 barrels of Salt Flat crude daily to the Louisiana Oil Refining Corporation, making deliveries in tank cars.

Abilene, Texas.—General headquarters for the Union Oil Company of Nevada have been located in Abilene, as a result of closing that concern's Fort Collin, Colorado, office, which has been the operating base for the company in the Rocky Mountain and Mid-Continent areas.

Union Oil Company of Nevada, a subsidiary of the Union Oil Company of California, with general offices in Los Angeles, has for more than a year maintained a district office in Abilene.

C. H. Sherman, who has been Rocky Mountain manager for the company and in charge of the Colorado headquarters, will be chief executive of the office here. Sam Gransfelder, assistant manager, will remain here as will W. G. Gallagher, chief geologist and John Byram, land department manager.



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Say you saw it in The OIL WEEKLY

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Production Decline Indicative of Curtailment Plan Possibilities

LAST week the petroleum industry demonstrated the possibilities of the cooperative curtailment by bringing the national crude production curve 43,000 barrels nearer the goal set for this year. Practically all fields contributed to reduce the daily production last week to 2,615,050 barrels, a net decline of 43,050 barrels a day. Oklahoma and Texas contributed substantially to this decline. These states lead all others in the curtailment effort which resulted in a combined slump of 44,900 barrels, Oklahoma contributing 25,300 and Texas 19,600 barrels.

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH AVERAGE OF 1928

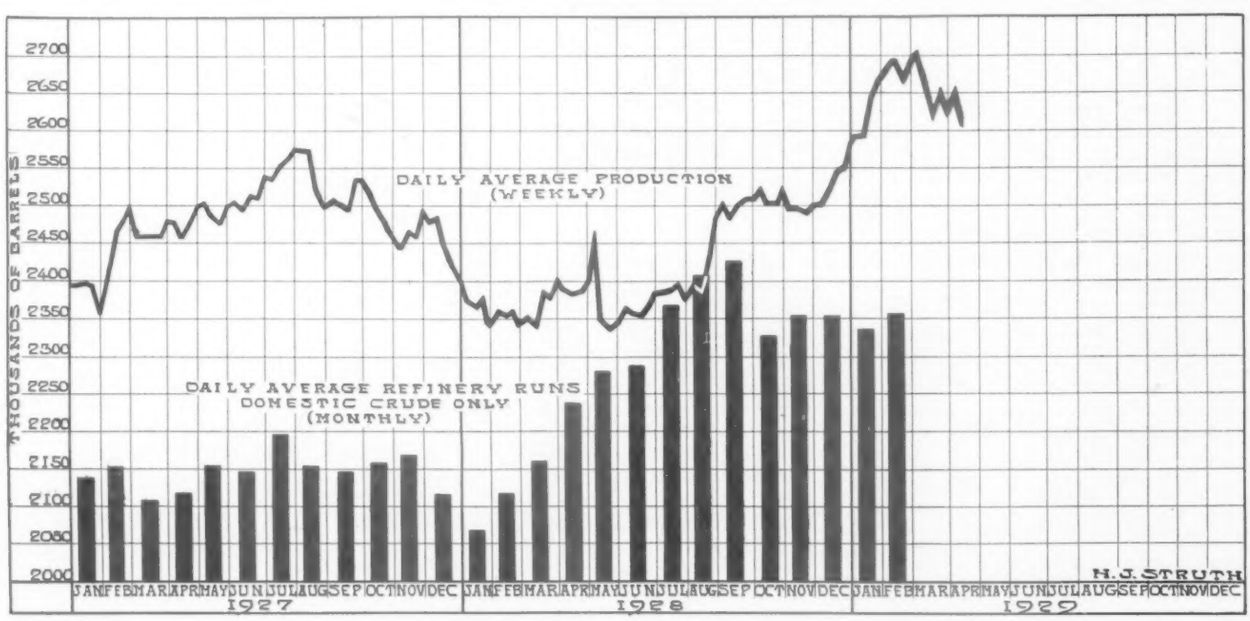
	Daily Average Year 1928 (Bureau of Mines Data)	Daily Average April 13, 1929 (A. P. I. Wkly Prod. Rept.)	Excess
Oklahoma-Kansas	786,585	753,750	[1]**32,835**
Texas-Louisiana-Arkansas	849,205	907,600	58,395
California	633,831	776,200	142,369
Balance of United States	190,391	177,500	[1]**12,891**
Total United States	2,460,012	2,615,050	155,038
Mexico-Central and South America	561,339	609,249[2]	47,910
Grand total	3,021,351	3,224,299	202,948

[1]Bold figures indicate below 1928 average. [2]As of March 30—latest date available.

An offset to gains registered in other areas was brought about by a decline of 4250 barrels in the Rocky Mountain area and also by a drop of 1000 barrels in California. Kansas, Gulf Coast and Southwest Texas were the only areas to display a contrary trend last week, showing gains of 7,500, 4,050 and 1,500 barrels, respectively. The detailed analysis of daily production, as reported by the American Petroleum Institute, shows, unmistakably, that curtailment efforts are beginning to meet with a fair degree of success and indicate the possibilities of continued effort in this direction.

The results of last week lend an encouraging aspect to the crude situation that shows up in the accompanying comparison with last year's averages. The excess now stands at 155,038 barrels, in contrast with 198,088 barrels in the preceding week. Of particular significance is the marked decline recorded by Texas. This has resulted in bringing the excess of Texas, Louisiana and Arkansas down to only 58,395 barrels a day. On the other hand California has made no progress with proration, the excess of that state continuing to hover above 140,000 barrels a day. In this connection, however, California operators have definitely agreed upon April 22 as the opening day in a drive to reduce the output of that state at least 100,000 barrels a day. On that date, advices state that the

DOMESTIC PRODUCTION AND REFINERY RUNS



recently adopted proration plan will be placed into operation including all fields in Southern California, extending as far north as Ventura. This is the first sign of encouragement in that area and presages the successful culmination of the industry's efforts to bring about a state of equilibrium between supply and demand. With Oklahoma well below the danger point, Texas rapidly approaching the limits prescribed, and California seriously determined to bring about an immediate substantial reduction in its output, it begins to look as though better days confront the producer. At any rate, it is now believed that we will witness some real progress in the right direction, the benefits of which cannot fail to manifest themselves during the latter part of this year.

Any material improvement, which is likely during the weeks immediately ahead, should not be construed as a signal for a generally higher crude market. The crude situation requires extreme caution during the anticipated periods of pronounced improvement, for any unwise market move cannot fail to completely destroy the value of past efforts to stabilize the industry. *It is only by continued cooperative effort that long-looked-for stabilization can and will be maintained.* Order must supplant chaos, not only in point of crude production but also in point of market action. The laws of supply and demand will readily respond to any material improvement in the situation, but any attempt to over-estimate the potentialities of the crude market is bound to react unfavorably upon the supply situation. If the industry can successfully maintain normality throughout the balance of this year, it will not be difficult to maintain a state of equilibrium next year, and, undoubtedly, our future demand will automatically maintain a closer relationship between supply and demand.

In reviewing well completions of last week, it is of considerable interest to note a material decline in initial production of new oil wells. Last week 235 oil wells were completed, with an aggregate initial of 46,856 barrels, or an average of 199 barrels per well. In the preceding week, 168 oil wells were completed, having an aggregate initial of 79,426 barrels, or an average per well of 472 barrels. Thus, while there was an increase of 67 oil wells completed, the aggregate initial declined 32,570 barrels. It is also noted that there is a slight let-up in the amount of wildcat drilling. All of these facts furnish a more optimistic note than has been in evidence for some time. However, it must not be forgotten that we are only beginning to realize the results of the curtailment plan. There is still much to be done in this direction and, in the meanwhile, it is hoped that patience and caution will predominate within the ranks of the industry.

Competitive conditions in the Salt Flat, Texas, district have resulted in a price boost of 20 cents a barrel for that grade, initiated by the Sun Company. This boost was met on April 8 by both the Shell Petroleum Corporation and the Humble Oil Company. The posted price for Salt Flat crude is now $1.00 per barrel. Mirando crude has not been affected by this change, the price of that grade remaining 80 cents.

Oklahoma Market Strong

The Oklahoma light-grade crude oil market remained strong at its posted price last week with a number of companies actively soliciting new connections. This has resulted in many rumors of mergers and purchases.

Apparently there will be little or no change in the Oklahoma situation. Operators are watching the conditions closely as the spring motoring season nears. There is as much talk of a crude advance within 60 days as heard in Tulsa a couple of weeks ago.

In the refined market, U. S. motor gasoline made no change in prices but the market is expected to move up shortly, being very strong at the general price of 7⅜ cents per gallon. Export buying in North Texas is doing much to strengthen the Oklahoma mart.

Kerosene sales were slowing up the last part of the week, and were around 6½ to 6¾ cents a gallon, for 41-43 water white grade. Other fuels were not so active but holding.

Crude oil runs to stills in the Mid-continent have increased to approximately 485,000 barrels or 10,000 barrels above the figure of a month ago. This is due mostly to an increased demand in North Texas, where export buying has taken most of the surplus. The increased crude run is causing a larger output of gasoline, but the market is considered strong, despite the fact that refiners stocks are higher than a year ago.

California

The curtailment movement in California is gathering momentum daily and it appears possible to shut in 100,000 barrels of the 142,000 barrels daily suggested by the regional committee of the American Petroleum Institute. It was first planned to reduce production in one field at a time, but some friction arose over the plan and a decision was reached to pinch all fields in the state at once. Santa Fe Springs operators fell in with the plan with less opposition than was expected in some quarters. Long Beach is offering considerable resistance to the reduction of

Details on Critical Fields

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS—								
Hendrick	562	2,975,355	5,300	573	158,530	277[1]	7	23
Church and Fields	189	203,465	1,077	187	26,795	143	.	.
Gulf-McElroy	72	56,615	786	72	12,615	175[1]	.	2
Yates	309	2,025,350	6,571	303	88,195	291	2	6
Totals	1,132	5,260,785	4,650	1,135	286,135	252	9	31
TEXAS PANHANDLE—								
Hutchinson County	1,155	550,735	477	1,008	24,960	25	3	18
Gray County	346	143,660	415	333	28,145	85	16	38
Carson County	191	62,285	326	161	6,330	39	2	15
Wheeler County	45	14,775	328	36	645	18	3	8
Moore County	11	6,145	559	9	1,660	184	2	11
Totals	1,748	777,600	445	1,547	61,740	40	26	90
OKLAHOMA—								
Seminole	1,870	2,300,434	1,235	1,489	263,422[1]	174	15	167
St. Louis	407	401,809	987	334	100,609[1]	301	10	73
CALIFORNIA—								
Santa Fe Springs[2]	162	500,500	3,090	120	124,000	1,033	33	166

([1]) Prorated.
([2]) Deep production only. For field total add 221 wells and 21,000 barrels.

small pumping wells, but the bulk of production will readily fall in line with the curtailment program. Barring unforseen developments, production will be reduced in California by at least 100,000 barrels in a single stroke.

Santa Fe Springs is still dangerous, but it now seems that the deeper zones will not furnish the excitement that accompanied the development of the Buckbee and Nordstrum sands. Production is slipping fast, but if the water problem can be soived, the O'Connell zone will send the field total sharply upward. It has been demonstrated that the formation is capable of furnishing large wells, but the temperature is so high that it has been almost impossible to secure a satisfactory water shutoff. About 175 wells are drilling and if the water problem is solved, good wells will result from the 500 feet of sand.

Long Beach refuses to give ground, production holding to 184,000 barrels. Nearly all wells are on a settled basis and the field decline is easily offset by a few good wells each week.

The retail price of gasoline has been advanced another cent in the Pacific Coast territory, the regular price in Los Angeles being 19½ cents. The tank wagon price remains unchanged at 18½ cents. Large discounts to dealers account for the small difference in the tank wagon and service station prices.

The increase in stocks in California has not improved the fuel oil market, this commodity changing hands at the Los Angeles harbor at prices ranging from 50 to 75 cents a barrel.

Drilling Without Permit Obtains No Rights

Washington, D. C.—Expenditures made in drilling on the public domain before a permit was secured from the government will not be given consideration in determining the status of permits, according to Secretary of the Interior Wilbur in a letter to the governors of Utah, Wyoming and Colorado, discussing the new federal oil policy.

Answering the recommendation that equities established through expenditure of money be recognized, the secretary declared that "if applicants have undertaken to drill on the public domain before they have been granted a permit, they did so upon their own responsibility and without authority of law, Efforts to reconcile conflicting interests before filing an application for permit, of course, could not be an equitable ground for relief from the government's standpoint."

The number of instances where such equities might be claimed legitimately, it is pointed out, are believed to be so rare that an exception to the rule would not seem to be advisable under the present policy.

The governors were assured, however, that under the policy of limiting leases to 25 per cent. of the area, the lessees in each case will be given a preference right to the lease of additional land when the remaining area is opened for lease.

Oil Board Points Out State Rights In Conservation Move

WASHINGTON, D. C.—Joint action by the oil states in working out a conservation program, in lieu of the plan of the American Petroleum Institute, is urged by Secretary of the Interior Wilbur, as chairman of the Federal Oil Conservation Board.

The plan was proposed by the secretary in a letter to R. C. Holmes, chairman of the general committee of the Institute. Joint state action, it was pointed out, is permissable under the constitution, and might accomplish the purpose of the institute's own plan, regarding which the Department of Justice has given the oil industry little or no encouragement.

"Purely negative action," the secretary warned in his letter, "does not cure the prime difficulty—the rapid waste of our oil resources."

Had the control and conservation urged by the board been in effect during the last three years, the present situation not only would not have arisen, but the present vast waste of oil by diversion from gasoline to fuel would not be taking place, he declared. Such a program could not be wholly applied to old pools, it is admitted, but could be made effective in new pools and new strata. But solely to close off production temporarily to relieve present congestion and stop the immediate waste of gasoline to fuel would not effect the real problem, the industry was told.

"The problem appears to the board," the letter continued, "due to the legal inhibitions, to be one in the real solution of which action must be secured from the different states. The board recognizes that individual state action without co-ordination would not cover the question, but with view to bringing about such a program and its co-ordination, the board believes it would be worth while to renew discussion with the state authorities of the three or four principal oil producing states, particularly to learn if it is not possible for them to enter upon an interstate compact under the provisions of the constitution authorizing such compacts to which the federal government, through congressional action, would be a party. The character of such a compact would need much consideration but it could well comprise creating a joint board for the purposes of constructive conservation and thus secure the nation from the very real peril that will lie in the reckless exhaustion of our oil resources.

"It is believed that the above suggestion, if it can be consummated on constructive lines, should extend the life of our oil resources and give greater stability to the industry, should vastly increase the returns to those states, and at the same time should protect the consumer."

As an initial step toward bringing about the adoption of its suggestion, the board has designated Dr. George Otis Smith, director of the Geological Survey, to visit and interview the governors of three or four of the dominating oil producing states for the purpose of securing their views upon the proposal.

Secretary Wilbur's letter to Mr. Holmes was the first formal pronouncement of the board bearing upon the proposal of the petroleum institute since the recent conference between the producers and the board, at which the former were advised that the attorney general had ruled that the latter was without authority to approve the institute's proposal for restriction of production which, in the opinion of the Department of Justice, would be in violation of the Sherman act. Despite the attorney general's ruling, Mr. Holmes had urged the producers to proceed with the institute proposal with a view to testing it in the courts.

Limit Osage Leasing to 25,000 Acres Yearly

Washington, D. C.—Leasing of Osage oil lands at once will be restricted to the 25,000 acres annually required under the act of March 2, last, it was announced today by Secretary of the Interior Wilbur. No additional offerings for lease of other tribal lands will be made except where loss to the Indians is likely to occur by drainage through wells on adjacent private lands.

Outstanding permits for lands within the executive border of Indian reservations will be considered and disposed of in accordance with departmental regulations issued following enactment of the Osage measure. The rights of individual allottees and their heirs to leases for oil and gas purposes and lands allotted in severalty under acts of congress will be recognized, subect to the approval of the department in each case.

Water Encroachment in Roberts-Settles Oil Pool

The engineers of the Dallas field office of the United States Bureau of Mines, Department of Commerce, are working with the Texas Railroad Commission and operators of the Roberts-Settles, Texas, oil pool on a study of water encroachment. A number of water samples have been collected and analyzed for the purpose of determining the origin of the water. Cross-sections through the field have been developed on a large scale base so that the water encroachment conditions may be graphically interpreted. Production data have been collected and sufficient engineering work completed to form a good working knowledge of the pool.

Mid-Kansas Asks Committee to Increase Yates Prorated Runs

FORT WORTH, Texas.—Mid-Kansas Oil & Gas Company, which has market control over about one-half of the established production in the Yates field through joint ownership with Transcontinental Oil Company, made a formal request early this week to increase its crude run immediately 12,500 barrels, thus increasing allowable production of the field a like amount to a new peak level of 100,000 barrels daily.

Approval of the higher allowance was given by the Texas Railroad Commission after a formal hearing January 12, to become effective February 1, but owing to limited pipe line facilities production was only increased from 72,500 barrels to 87,500 barrels on the latter date. The commission's order instructed the Yates field proration advisory committee to act favorably when carriers could handle the 100,000-barrel daily allowance.

Mid-Kansas Oil & Gas Company directed its formal request to Chairman W. A. Moncrief and other members of the advisory committee by telegraphic communication Monday and Tuesday of this week, and the results of this vote are to be passed on the commission. A check made Tuesday on this committee indicated a majority vote is assured, and unless outside opposition is registered with the commission the Yates field operators will receive a 12½ per cent. boost in production.

Co-incident with Mid-Kansas Oil & Gas Company's request for authorization to boost its current pipe line runs in the field from 37,000 to 49,500 barrels daily, the company won a supreme court decision at Washington Monday against the Transcontinental Oil Company, thus giving the company exclusive rights to market all oil and gas produced from its fifty-fifty interests in the field, as per contract made at the beginning of operations. This decision definitely removes Transcontinental Oil Company from being a potential transporter and marketer of Yates field crude, although the bulk of the right-of-way for a trunk line to Texas City has been paid for, as well as a portion of the proposed refinery site on the coast.

Mid-Kansas Oil & Gas Company made a contract about January 1 of this year to deliver a huge amount of Yates crude within the next five years at rate of 40,000 barrels daily to Humble Oil & Refining Company. Illnois Pipe Line Company, an Ohio Oil Company subsidiary, gathers and transports this contracted oil to Humble Pipe Line Company at Lytle station, thus receiving a substantial tariff which serves as a premium on the contract. The new pipe line quota solicited by Mid-Kansas Oil & Gas Company affords a surplus on the Humble Oil & Refining Company contract. Indications are that a new deal has been made for the disposal of this surplus, probably with The Texas Pipe Line Company, which has a 12-inch carrier extending via the Yates field to the coast that will be completed shortly, but is without a connection in the field.

Yates field operators have operated their wells on a restricted production basis since the beginning of the field, and have continually adhered to greater proration restrictions than other fields. However, when the movement was launched in March to reduce the daily allowance of Winkler County by 25,000 and Howard County's deep sand area by 75,000 barrels daily, it was generally understood that Yates operators would not boost their daily quota to 100,000 barrels. Should the Yates increase go through on schedule there may be protests registered by operators in the other two prorated areas that took reductions on April 1.

New Type Pipe Line Weld Joint Takes Care of Expansion

(Continued from page 23)

laying of Gulf Pipe Line Company's 1[illegible]-inch section was reduced about one-third of that normally thrown into a line of similar size and condition. Stabbing of pipe ends are facilitated by the use of the sleeve or nipple, while no welding clamps are necessary.

Gulf Pipe Line Company also made use of the new type of joint on the eight-inch pipe section of the Midland-Hendrick extension line, having inserted welded joints at 1,000-foot intervals to cut down the slack allowance normally allowed on a screw joint line. This company is to start work shortly on building a series of new loops on its trunk line system from Midland station via Ranger, Wortham and Lufkin stations to Gulf Coast terminal at Port Arthur.

You Talk in Big Figures When You Talk of Venezuela

(*Continued from page 26*)

to 72 rigs during the last half of 1928; but definite signs of an impending shutdown are visible on every hand. It is said that Lago Petroleum Company, whose contract with the Fitzsimmons Drilling Company will expire on June 1, plans to take over its own drilling operations and shut down several of its rigs. In fact, a number of drilling crews and other field workmen were laid off during the current week.

Fields—	Companies	Date of Discovery	Character of Oil: Gravity	Character of Oil: Base	Cumulative Total Expressed in Millions of Bbls.
Ambrosio	Lago, VGO	Jan., 1926	24°	Asph	5.77
La Rosa	Lago, VGO & VOC	Dec., 1917	20°-24°	Asph	84.67
Punta Benitez	Lago, VOC	Oct., 1926	28°	Asph	2.47
Lagunillas	(Lago) (VGO) (VOC)	May 11, 1926	16°-20°	Asph (40.6) Asph (31.3) Asph (33.1)	105.0
Mene Grande	Caribbean	Jan. 12, 1914	15°-19° Deep 31°	Asph	52.7
El Mene	B. C. O.	1920-1921	32.5°	Para	10.95
La Paz	V. O. C.	Dec., 1922	25°-28°	Asph	1.28
Concepcion	V. O. C.	1924	37°-38°	Mixed	1.82
Guanoco	N. Y. & B. & Creole	Sept. 5, 1913	10°-12°	Asph	1.01
Total Venezuelan production, cumulative to March 1, 1929					265.67

Note—Non-commercial fields, i.e., fields not shipping oil, not included.

Abbreviations used: Lago—Lago Petroleum Co. (S. O., Ind); V. G. O.—Venezuela Gulf Oil Company; V. O. C.—Venezuelan Oil Concessions, Ltd. (Shell); Caribbean—Caribbean Petroleum Co. (Shell); B. C. O.—British Controlled Oilfields, Ltd.; N. Y. & B.—New York & Bermudez Co. (General Asphalt); Creole—Creole Petroleum Corporation (S. O.-N. J.); Asph—Asphalt; Para.—Paraffin.

BOLIVAR LAKE-SHORE DISTRICT

Field	Company	Well No.	[5]Date Completed	Cumulative Total
		2,000,000-barrel Wells		
La Rosa	Gulf	R-9	Mar. 14, 1926	[1]2,714,652
Lagunillas	V. O. C.	LS-3		[2]2,489,715
Lagunillas	Lago	LL-3		[2]2,476,202
		1,000,000-barrel Wells		
La Rosa	V. O. C.	R-4		[1,3,4]1,105,591
La Rosa	V. O. C.	R-6		[3]1,797,496
La Rosa	V. O. C.	R-8		[3]1,041,586
La Rosa	V. O. C.	R-30		[3]1,392,494
Lagunillas	V. O. C.	LS-1		[2]1,882,482
Lagunillas	V. O. C.	LS-4		[2]1,768,742
Lagunillas	V. O. C.	LS-5		[2]1,658,241
Lagunillas	V. O. C.	LS-8		[2]1,536,401
Lagunillas	Gulf	Gatun 1		[2]1,016,834
Lagunillas	Gulf	Titicaca 1	Dec. 27, 1926	[2]1,641,353
Lagunillas	Gulf	Titicaca 2	Feb. 7, 1927	[2]1,002,967
Lagunillas	Gulf	Lago 1	May 11, 1926	[2,4]1,895,390
Lagunillas	Gulf	Lago 2	Feb. 2, 1927	[2]1,250,498
Lagunillas	Gulf	Lago 3	Jan. 31, 1927	[2]1,133,813
Lagunillas	Gulf	Lago 4	Mar. 11, 1927	[2]1,038,692
Lagunillas	Lago	LL-1		[2]1,833,153
Lagunillas	Lago	LL-2		[2]1,619,682
Lagunillas	Lago	LL-4		[2]1,160,029
Lagunillas	Lago	LL-5		[2,3]1,000,000
Lagunillas	Lago	LL-8		[2]1,664,480
Lagunillas	Lago	LL-14		[2]1,349,796

[1]Cumulative total, as of January 1, 1929; [2]as of February 1, 1929. [3]Estimated. [4]Discovery well. [5]Exact dates of completion are not available in all instances, but none of these wells is as yet three years old.

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JONES SUCKER RODS

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1928	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
January	675,450	108,300	523,300	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,800
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
December	710,600	97,200	603,700	135,050	37,300	81,350	113,450	74,600	697,850	2,551,100	79,084,400
1929											
January	722,550	97,150	632,500	136,750	36,650	78,600	111,950	73,200	747,250	2,635,600	81,703,600
February	714,800	95,950	643,350	142,300	35,700	74,600	108,550	71,750	797,800	2,684,800	75,204,400
March	666,500	95,500	662,500	147,750	35,800	74,250	108,850	70,400	786,000	2,647,400	82,068,350
April 6	673,700	97,850	668,250	150,850	35,500	73,100	110,250	71,350	777,200	2,658,100	18,606,700
April 13	648,400	105,350	644,700	154,500	35,600	72,800	110,500	67,100	776,200	2,615,050	18,305,350
Increase	.....	7,500	.....	3,650	100	.....	250	.....	.....	.....	.....
Decrease	25,300	.....	23,550	.....	.....	300	.....	4,250	1,000	43,050	301,350

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	April 13	April 6
Carson County	6,300	6,200
Gray County	28,150	30,750
Hutchinson County	24,950	26,650
Wheeler County	650	800
Others	1,650	1,700
Total	61,700	66,100

NORTH TEXAS

Archer County	16,600	16,700
Burkburnett	8,950	9,050
Electra	12,650	12,750
Iowa Park-KMA	5,450	5,600
Montague and Cooke Cos.	12,000	11,450
Wilbarger	26,750	27,400
Others	500	500
Total	82,900	83,450

WEST CENTRAL TEXAS

Brown County	8,700	8,750
Callahan County	3,750	3,750
Coleman County	3,700	3,600
Eastland-Desdemona	7,050	6,600
Jack County	1,500	1,500
Palo Pinto County	400	400
Shackelford County	13,250	13,500
Stephens County	6,100	6,100
Throckmorton County	600	600
Young County	6,750	6,850
Others	700	700
Total	52,500	52,350

WEST TEXAS

Crane-Upton Counties	49,000	49,400
Crockett County	2,100	2,100
Howard County	42,700	44,100
Jones County	6,100	6,200
Mitchell-Scurry Cos.	2,800	2,800
Pecos County	88,200	87,900
Reagan County	18,500	18,700
Winkler County	143,200	161,550
Others	1,800	1,800
Total	354,400	374,550

EAST CENTRAL TEXAS

Boggy Creek	3,500	3,500
Corsicana-Powell	8,150	8,200
Currie	500	500
Mexia	5,450	5,500
Nigger Creek	600	600
Richland	400	400
Wortham	1,200	1,200
Total	19,800	19,900

SOUTHWEST TEXAS

Dale	550	600
Laredo District	11,750	11,500
Luling	12,450	12,750
Lytton Springs	1,000	1,100
Somerset	1,000	600
Salt Flat	41,800	39,950
Others	4,850	5,400
Total	73,400	71,900
T'tl Tex. (Outside Gulf Coast)	644,700	668,250

TEXAS GULF COAST

Barbers Hill	11,700	6,850
Batson	1,500	1,500
Big Creek	2,750	3,450
Blue Ridge	3,200	3,500
Boling	1,900	1,900
Damon Mound	800	700
Goose Creek	6,300	6,000
Hull	9,450	9,750
Humble	7,400	6,950
Orange County	2,900	2,900
Pierce Junction	15,700	15,400
Raccoon Bend	2,200	2,400
Saratoga	950	1,000
Sour Lake	2,650	2,800
South Liberty	5,700	5,750
Spindle Top	32,000	32,700
Sugar Land	12,100	11,400
West Columbia	6,250	7,000
Washington County	3,650	3,800
Others	5,000	4,400
Total	134,100	130,150
Texas Total	778,800	798,400

OKLAHOMA

Braman	3,250	3,300
Logan County	11,000	11,150
Blackwell	3,750	3,750
Hubbard	2,050	2,000
Thomas	900	900
Tonkawa	10,100	10,050
Garber	5,900	5,800
Burbank	21,300	21,700
Osage (outside Burbank)	25,100	25,200
Cushing	20,700	20,650
Yale Jennings	7,100	7,150
Davenport	1,500	1,500
Bristow Slick	19,550	19,500
North Okmulgee	14,150	14,200
Lyons Deaner	8,100	8,150
Cromwell	7,600	7,600
Papoose	3,400	3,400
Wewoka	4,900	4,900
Seminole	31,550	35,000
Bowlegs	33,000	35,250
Searight	9,350	10,150
Little River	70,450	75,650
Earlsboro	59,250	61,150
Duncan District	6,550	6,550
Graham	4,350	4,350
Fox	1,450	1,450
Healdton	13,000	13,000
Hewitt	8,150	8,150
Scholem Alechem	13,000	12,700
Pearson	3,800	2,800
St. Louis	99,850	108,450
Allen	26,200	25,850
Maud	26,500	27,600
Mission	25,200	28,550
Okla. City	3,450	3,700
Others	42,850	42,450
Total	648,400	673,700

CALIFORNIA

Santa Fe Springs	147,000	152,500
Long Beach	185,000	185,000
Huntington Beach	46,500	46,500
Torrance	14,500	14,500
Dominguez	10,500	10,500
Rosecrans	7,000	7,000
Inglewood	25,500	26,000
Midway-Sunset	72,500	72,000
Ventura Avenue	55,000	55,000
Seal Beach	48,500	45,500
Elwood-Goleta	28,000	27,000
Kettleman Hills	4,000	4,000
Others	132,200	131,700
Total	776,200	777,200

KANSAS

Greenwood County	20,000	20,000
Florence-Covert	950	950
Peabody-Ebling	2,850	2,900
Eldorado-Towanda	11,900	11,900
Augusta-Fox Bush	2,750	2,750
Rainbow Bend	1,000	1,000
Russell	3,200	3,150
Churchill	6,800	7,000
Oxford	4,950	5,200
Sedgewick	23,750	15,500
Others	27,200	27,500
Total	105,350	97,850

NORTH LOUISIANA

	April 13	April 6
Homer	3,950	4,000
Haynesville	5,400	5,450
Caddo Light	8,100	8,100
Caddo Heavy	3,250	3,250
De Soto-Red River	3,950	3,900
Elm Grove	600	600
Bellevue	700	700
Cotton Valley	3,050	3,000
Urania	5,850	5,800
Pleasant Hill	500	500
Others	250	250
Totals North Louisiana	35,600	35,500

LOUISIANA GULF COAST

Bayou Boullion	300	350
East Hackberry	2,600	3,100
Hackberry	4,100	3,900
Edgerly	900	800
Evangeline	1,000	800
Lockport	3,400	4,100
Sorrento	400	350
Sulphur Dome	2,600	2,100
Sweet Lake	400	400
Vinton	4,200	4,300
Others	500	500
Total Louisiana Gulf Coast	20,400	20,700
Louisiana Total	56,000	56,200

ARKANSAS

El Dorado	4,550	4,550
Champagnolle	9,150	9,250
Smackover Light	6,200	6,300
Smackover Heavy	49,150	49,250
Stephens	1,000	1,050
Nevada	1,250	1,200
Lisbon	1,400	1,400
Others	100	100
Total	72,800	73,100

MOUNTAIN STATES

WYOMING

Salt Creek	30,100	32,400
Grass Creek	2,300	2,300
Elk Basin	1,000	800
Big Muddy	2,300	2,300
Lost Soldier	3,300	3,300
Rock River	2,450	2,450
Lance Creek	250	250
Oregon Basin	2,350	2,850
La Barge	1,750	1,750
Others	2,600	2,750
Total	48,400	51,150

MONTANA

Cat Creek	1,400	1,400
Sunburst	5,300	5,300
Pondera	2,850	2,800
Others	100	100
Total	9,650	9,600

COLORADO

Moffats (Craig)	1,000	950
Fort Collins	2,350	2,750
Florence	1,050	1,250
Others	2,100	2,150
Total	6,500	7,100

NEW MEXICO

Table Mesa	200	...
Artesia	900	950
Hogback	300	400
Rattlesnake	750	1,850
Others	400	300
Totals	2,550	3,500
Totals Mountain States	67,100	71,350

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	110,500	110,250

PRODUCTION SUMMARY

East of Rockies	1,771,750	1,809,550
Total U. S.	2,615,050	2,658,100

DOWN

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That's the business of Divers and GUIBERSON Swabs

When a Guiberson Swab goes in the hole, it goes down to *get the fluid.* That's strictly business, and the Guiberson Swab *gets it* in a business-like manner.

Every return of the Guiberson Swab brings a full load to the top. None of it leaks past the cups and back into the hole. The cup construction on this phenomenal swab has revolutionized swabbing. Cups are made of a specially prepared, slow deteriorating rubber composition and their construction is such that the pressure of a load of fluid presses the cup rims firmly against the casing walls, making a perfect seal. Any pressure from below, however, while the swab is running in, tends to collapse the cups, giving speedy passage int othe hole. Imbedded guide wires steer cups, giving speedy passage into the hole. Imbedded guide wires steer cups will operate in two sizes of casing. The Guiberson Swab is doing most of the world's swabbing today.

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GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The OIL WEEKLY

CRUDE OIL PRICE QUOTATIONS

Revised April 16, 1929

CRUDE PRICE CHANGES

Effective April 8, Shell Petroleum Corporation met the 20 cent increase on Salt Flat (Suuthwest Texas), crude, initiated on April 2, by Sun Oil Company. On the same day Humble Oil & Refining Company also posted the new price of $1.00 a barrel on this grade.

EASTERN STATES

(Effective March 12, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$4.10
Brandford District Oil in National Transit Lines (Pennsylvania)	4.10
Penna Grade Oil in National Transit Lines (Pennsylvania)	4.00
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	4.00
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.90
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.85
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.35
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.75
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.50
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	.60
Keister (Pennsylvania)	1.20

CENTRAL STATES

(Effective January 25, 1929)
Posted by Ohio Oil Co.

Illinois	1.45
Indiana	1.27
Lima	1.50
Plymouth	1.18
Princeton	1.45
Waterloo	1.25
Wooster	1.62

WESTERN KENTUCKY

All grades	1.53

MID-CONTINENT

(Effective January 24, 1929)
Magnolia Petroleum Company

Under 26	.60
26 to 26.9 gravity	.65
27 to 27.9 gravity	.70
28 to 28.9 gravity	.75
29 to 29.9 gravity	.80
30 to 30.9 gravity	.90
31 to 31.9 gravity	1.00
32 to 32.9 gravity	1.08

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

MID-CONTINENT

(Effective January 25, 1929)
Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.

25 to 25.9gravity	.66
26 to 26.9 gravity	.72
27 to 27.9 gravity	.78
28 to 28.9 gravity	.84
29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 to 37.9 gravity	1.23
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.29
40 to 40.9 gravity	1.32
41 to 41.9 gravity	1.35
42 to 42.9 gravity	1.38
43 to 43.9 gravity	1.41
44 and above	1.44

PANHANDLE

(Effective January 24, 1929)

GRAY COUNTY

(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company and Sinclair Pipe Line Company).

Below 29 gravity	.69
29 to 29.9 gravity	.75
30 to 30.9 gravity	.81
31 to 31.9 gravity	.87
32 to 32.9 gravity	.93
33 to 33.9 gravity	.96
34 to 34.9 gravity	.99
35 to 35.9 gravity	1.02
36 to 36.9 gravity	1.05
37 to 37.9 gravity	1.08
38 to 38.9 gravity	1.11
39 to 39.9 gravity	1.14
40 to 40.9 gravity	1.17
41 to 41.9 gravity	1.20
42 to 42.9 gravity	1.23
43 to 43.9 gravity	1.26
44 and above	1.29

WHEELER COUNTY

(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.70
30 to 30.9 gravity	.76
31 to 31.9 gravity	.82
32 to 32.9 gravity	.88
33 to 33.9 gravity	.91
34 to 34.9 gravity	.94
35 to 35.9 gravity	.97
36 to 36.9 gravity	1.00
37 to 37.9 gravity	1.03
38 to 38.9 gravity	1.06
39 to 39.9 gravity	1.09
40 to 40.9 gravity	1.12
41 to 41.9 gravity	1.15
42 to 42.9 gravity	1.18
43 to 43.9 gravity	1.21
44 and above	1.24

CARSON-HUTCHINSON COUNTIES

(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.72
32 to 32.9 gravity	.78
33 to 33.9 gravity	.81
34 to 34.9 gravity	.84
35 to 35.9 gravity	.87
36 to 36.9 gravity	.90
37 to 37.9 gravity	.93
38 to 38.9 gravity	.96
39 to 39.9 gravity	.99
40 to 40.9 gravity	1.02
41 to 41.9 gravity	1.05
42 to 42.9 gravity	1.08
43 to 43.9 gravity	1.11
44 and above	1.14

WEST TEXAS

(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Pecos and Winkler Counties, all grades	.65

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

CALIFORNIA CRUDE OIL PRICES AT THE WELL

(EFFECTIVE JANUARY 18, 1929)

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons infields indicated)

Gravity	Ventura *	Signal Hill	Alamitos Heights-Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood † Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elks Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$ .85	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ ..	$ .70	$ .70	$ .70	$ .70	$ .70	..	$ .50	$ .50	$ .50	$ .50	$ .50	$ .50
15-15.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
16-16.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
17-17.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
18-18.9	.85	.75	.75	.75	.75	.75	..	..	.75	.75	.75	.70	.75	..	.50	.56	.56	.56	.56	.56
19-19.9	.85	.80	.80	.80	.80	.80	..	..	.80	.80	.80	.75	.80	..	.50	.62	.62	.62	.62	.62
20-20.9	.85	.85	.85	.85	.85	.85	..	..	.85	.85	.84	.80	.84	..	..	.68	.68	.68	.68	.68
21-21.9	.86	.89	.89	.89	.89	.89	..	..	.89	.89	.88	.85	.88	.89	..	.74	.74	.74	.74	.74
22-22.9	.87	.93	.93	.93	.93	.93	..	..	.93	.93	.91	.90	.91	.92	..	.80	.80	.80	.80	.80
23-23.9	.90	.97	.97	.97	.97	.97	..	..	.97	.97	..	.95	.94	.95	..	.85	.85	.85	.85	.85
24-24.9	.94	1.01	1.01	1.01	1.01	1.01	1.01	..	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	.98	1.05	1.05	1.05	1.05	1.05	1.05	..	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.02	1.09	1.09	1.09	1.09	1.09	1.09	..	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.06	1.13	1.13	1.13	1.13	1.13	1.13	..	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.10	1.17	1.17	1.17	1.17	1.17	1.17	..	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.14	1.21	1.21	1.21	..	1.21	1.21	..	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.18	1.25	1.25	1.25	..	1.25	1.25	..	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.23	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.0	1.28	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
32-32.9	..	..	..	..	..	..	1.41	..	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	..	1.47	1.16	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	..	1.53	1.22	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	..	1.59	1.28	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	..	1.65	1.34	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	..	1.71	1.40	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	..	1.77	1.46	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	..	1.83	1.52	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	..	1.89	1.58	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	..	1.95	1.64	..	..	..	..	..	..	..	..	..	..	..	..

KETTLEMAN HILLS—55 degree Gravity and above $1.65 per barrel. *Union Oil Company. †Changed March 18, 1929.

Tell your "cut oil" troubles to the Official OIL DOCTOR

If you have a particularly stubborn emulsified production — an emulsification that has baffled your engineers and resisted your best efforts — get in touch with the Official Oil Doctor. His business is solving such problems. He can quickly remedy your most difficult "cut oil" production, eliminating the losses incident thereto — turning them into profits. Complete equipped laboratory with a highly skilled staff of petroleum engineers at your service at all times.

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PETRECO

Say you saw it in The OIL WEEKLY

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 44*)

(Magnolia Petroleum Company)
(Effective January 24, 1929)

Mitchell County	$ .65
Howard-Glasscock County (shallow)	.65
Howard-Glasscock County (deep)	.65

Col-Tex Refining Company

Howard and Mitchell Counties	$ .80

MARKHAM

The Texas Company
(Effective January 30, 1929)

All grades	.90

LULING

All grades	.80

NORTH AND CENTRAL TEXAS

Effective January 24, 1929)
Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company)

Below 25	.60
25 to 25.9 gravity	.66
26 to 26.9 gravity	.72
27 to 27.9 gravity	.78
28 to 28.9 gravity	.84
29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 to 37.9 gravity	1.23
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.29
40 to 40.9 gravity	1.32
41 to 41.9 gravity	1.35
42 to 42.9 gravity	1.38
43 to 43.9 gravity	1.41
44 and above	1.44

SOUTH TEXAS

Mirando	.80
Salt Flat	1.00

GULF COAST

(Effective January 26, 1929)

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.05
25 to 25.9 gravity	1.07
26 to 26.9 gravity	1.09
27 to 27.9 gravity	1.11
28 to 28.9 gravity	1.13
29 to 29.9 gravity	1.15
30 to 30.9 gravity	1.17
31 to 31.9 gravity	1.19
32 to 32.9 gravity	1.21
33 to 33.9 gravity	1.23
34 to 34.9 gravity	1.25
35 to 35.9 gravity	1.27
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.33
39 to 39.9 gravity	1.35
40 and above	1.37

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

SOMERSET

Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

WYOMING-MONTANA

(Effective January 25, 1929)
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.36
Grass Creek	1.36
Rock Creek	1.18
Lost Soldier	.95
Lance Creek	1.38
Mule Creek	1.10
Notches	.65
Big Muddy	1.28
Osage	1.38
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.48
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA

Sunburst	$1.65
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

Artesia	1.08
Hogback	1.43

CANADA

(Effective January 26, 1929)

Oil Springs	1.97
Petrolia	1.90

LOUISIANA-ARKANSAS

(Effective January 26, 1929)
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley*
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company.)

27 to 27.9 gravity	.78
28 to 28.9 gravity	.84
29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.14
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.20
36 to 36.9 gravity	1.26
37 to 37.9 gravity	1.26
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.32
40 to 40.9 gravity	1.38
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.44
43 to 43.9 gravity	1.44
44 gravity and above	1.44

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Cad do. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS

(All Companies)

Below 28 gravity	.70
28 to 28.9 gravity	.74
29 to 29.9 gravity	.78
30 to 30.9 gravity	.82
31 to 31.9 gravity	.86
32 gravity and above	.90

SMACKOVER

(All Companies)

Below 24 gravity	.75
24 and above	.90
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.85
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 Gallons)

	Total Month March	Total Month February	Week Ended April 6	Week Ended March 30
AT ATLANTIC GULF COAST PORTS—				
Baltimore	575,000	385,000	208,000	130,000
Boston	808,000	422,000	73,000	230,000
New York	4,511,000	3,785,000	827,000	1,242,000
Philadelphia	1,214,000	917,000	354,000	293,000
Others	873,000	501,000	84,000	280,000
Total	7,981,000	6,010,000	1,546,000	2,175,000
Daily Average	257,452	214,643	220,857	310,714
AT GULF COAST PORTS—				
Galveston District	.....	.....	139,000	.....
New Orleans and Baton Rouge	1,320,000	962,000	65,000 "A"	445,000
Port Arthur & Sabine District	72,000	23,000	65,000	.....
Tampa	.....	4,000	.....	.....
Total	1,392,000	989,000	269,000	445,000
Daily Average	44,903	35,321	38,429	63,571
AT ALL UNITED STATES PORTS—				
Total	9,373,000	6,999,000	1,815,000	2,620,000
Daily Average	302,355	249,964	259,286	374,285

"A" Revised.

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures (Barrels of 42 Gallons)

	Total Month March	Total Month February	Week Ended April 6	Week Ended March 30
AT ATLANTIC COAST PORTS—				
Baltimore	617,000	398,000	132,000	72,000
Boston	30,000	.....	.....	.....
New York	969,000	1,085,000	227,000	344,000
Philadelphia	576,000	483,000	.....	283,000
Others	228,000	325,000	166,000	163,000
Total	2,420,000	2,291,000	525,000	862,000
Daily Average	78,065	81,821	75,000	123,143
AT GULF COAST PORTS—				
Total	.....	105,000	.....	.....
Daily Average	.....	3,750	.....	.....
AT ATLANTIC AND GULF COAST PORTS—				
Total	2,420,000	2,396,000	525,000	862,000
Daily Average	78,065	85,571	75,000	123,143
DISTRIBUTION OF TOTAL CALIFORNIA RECEIPTS—				
Crude	58,000	175,000	75,000	58,000
Gasoline	1,920,000	1,817,000	242,000	536,000
Kerosene Dist.	190,000	155,000	70,000	190,000
Gas Oil	252,000	249,000	88,000	78,000
Fuel Oil	.....	.....	50,000	.....
Total	2,420,000	2,396,000	525,000	862,000

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PERSONAL MENTION-MEN YOU KNOW

James V. Ferguson, factory representative of Williamsport Wire Rope Company, Williamsport, Pa., returned East early last week after spending 10 days in the Houston territory, which covers the Gulf Coast, Northeastern Louisiana and the Mexican border region. While in the Southern territory he accompanied Raymond Ford, Houston district manager for the company on a 2700-mile motor trip to San Antonio, Eagle Pass, various Coastal fields and Shreveport. Ferguson was formerly located in Tulsa for his company.

Frederick G. Clapp has returned to Paris after a journey to the oil fields of the Red Sea.

F. C. Sealy, formerly of the production department of The Texas Company at Wichita Falls is now assistant divisional manager of the production department with offices in Houston.

Jack Manes, assistant purchasing agent of the Sun Oil Company in Tulsa, and who is in charge of the National Safety Council work, is now on a safety engineering tour of the Oklahoma fields. Last week he was in Seminole, going there from the Okmulgee district.

R. C. Harper is the new chief scout for the Twin State Oil Company. He succeeds J. E. Buckley now head of the land department. Harper has been in the leasing department.

E. R. Filley, who has been acting manager of The Texas Company for the Oklahoma-Kansas-Kentucky districts with headquarters in Tulsa, has been made official manager for that district succeeding E. J. Nicklos, now vice-president in charge of operations for the Marland Production Company.

Morvin Thomas, formerly of Tulsa and Bartlesville, Oklahoma, has been named district manager of sales for the Pittsburgh Steel Products Company with headquarters in the Shell building in St. Louis. Home offices of the company are in Pittsburgh where C. V. Lalley is general manager of sales. Mr. Thomas for the last four years has been sales manager for the Southwest Supply Company in Bartlesville and for six years previous to that time was located in Tulsa as district manager for the Interstate Pipe Company.

Houston.—Hughes Tool Company on Tuesday was host to the Houston Purchasing Agents Association at its plant. After being served to a turkey dinner, the 175 purchasing agents present were taken on a tour of inspection by R. C. Kuldell and the other Hughes Tool Company officials.

H. A. Melat, general superintendent of production for the Gulf Production Company in the North and Central West Texas district, with headquarters at Fort Worth, departed April 10 on a business trip to California.

W. J. Morrison, purchasing agent for the Simms Oil Company with headquarters at Dallas, Texas, has been elected president of the Purchasing Agents Association of Dallas.

Sheldon Hardin, president of the Southern Crude Oil Purchasing Company, which maintains general offices at Fort Worth, with producing properties in the West Texas district, departed last week on a business mission to New York City.

J. M. Sitler, who recently joined Humble Oil & Refining Company as general purchasing agent, at Houston, spent the past week in New York City on business.

Tulsa.—L. V. Hopkins, with whom is associated Q. P. Schreck, has organized the Hopkins Equipment Corporation, with offices in the Braden Steel and Winch Company building. The new company will handle sales on a new oil field tractor trade-named "Big Bertha" and will also handle truck winches, as well as the Braden hub winch and a combination compound and multiple-speed power take-off transmission.

Equipment to be sold through Hopkins Equipment Corporation is manufactured by the Braden Steel and Winch Company. Hopkins Equipment Corporation also will handle sales of the Reedy trailers, manufactured by the Reedy Auto Truck and Trailer Company of Tulsa.

Mr. Hopkins, better known in the oil fields as "Hop" or "Lark" is president of the new concern and Q. P. Schreck is sales manager.

J. K. Sterling, formerly assistant secretary of the Marland Oil Company of California, has become connected with the Land Department of The Texas Company of California.

Lee Wilson, 51, president of the Eureka Drilling Company and owner of oil producing properties in the North Texas district, died at his home in Wichita Falls April 10 after several months illness. Wilson was well known in Louisiana, Arkansas, Texas Panhandle and North Texas fields through his drilling contract activities, and spent a number of years in the Tampico fields when Mexico was one of the leading oil countries. He is credited with having been a member of the crew that drilled in the famous Dos Bocas gusher in Mexico.

R. D. Matthews, vice president of the manufacturing department of the Union Oil Company, has returned to California, following an extended business trip to New York and other Eastern cities.

Norval White, Pacific Coast representative of the American Petroleum Institute, spent a part of last week in Los Angeles in connection with his official duties.

The Sexton Corporation of Texas has opened offices at 1808-10 Post-Dispatch Building, Houston, with D. F. Beaman as vice-president and general manager and Thomas E. Booth as secretary and treasurer.

The Sexton Corporation is an organization of contracting engineers with many years of experience in the construction of oil and gas pipe lines, gas compressor and distributing plants, harbor improvements and water and sewerage systems.

Michigan Premium

Tulsa.—A 10-cent per barrel premium is now being paid for some of the Muskegon field oil, of Michigan. Recently The Globe Oil Company of Lima, Ohio, sold to the Great Western Oil Company of Grand Rapids, Michigan, 500 barrels of Dundee sand crude. The price was reported as 70 cents, or 10 cents above the posted price.

Abandon Maywood Test

Los Angeles.—Richfield Oil Company has abandoned Vernon 1, a wildcat test near Maywood, at 6060 feet. The well was located just east of the Los Angeles city limits and about seven miles northwest of Santa Fe Springs.

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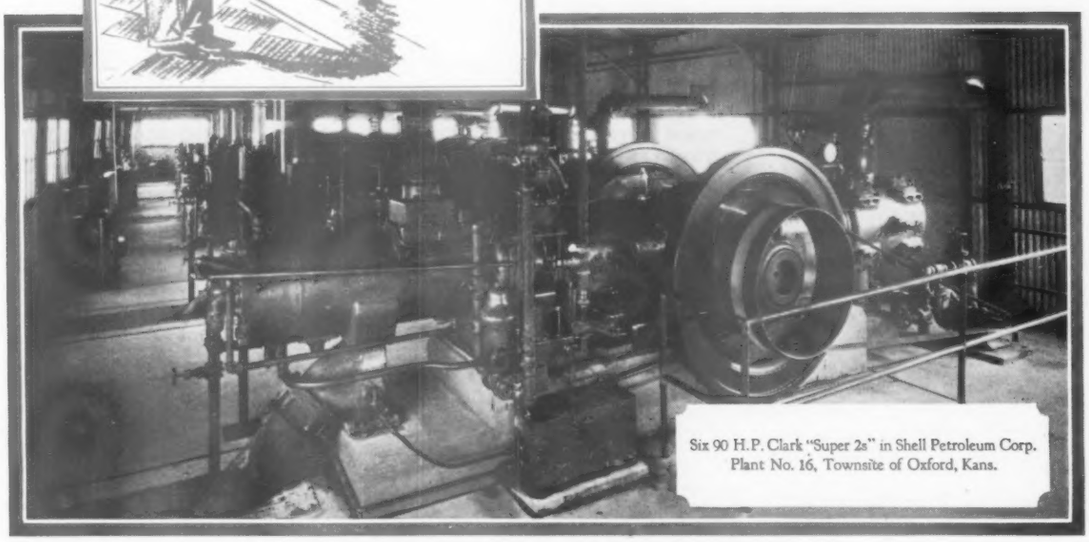

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Say you saw it in The OIL WEEKLY

Oklahoma--Kansas Field Notes

WARREN BAKER, *Staff Representative, Tulsa, Oklahoma*

Simms Well Points New Pool In Pottawatomie County

TULSA.—Possibility of a new field being opened by Simms Oil Company's wildcat test in southern Pottawatomie County was the most important production development of the past week in Oklahoma. The new producer is nearly five miles south of Pearson pool, and about six miles southwest of St. Louis field.

It is the Simms Oil Company's Laster 1, SEc NE NE Section 19-6-4, near Asher. The well topped the Viola lime at 3640 feet, and at 35 feet it had about 2000 feet of oil in the hole. When drilled to 3682 feet it made 500 barrels in 18 hours. The oil was 41 gravity oil at 70 degrees. Laster 1, was shut in for erection of tankage and when opened up produced 180 barrels in six hours. The well commenced making 80 barrels per hour when deepened to 3698 feet, and made 1454 barrels in 24 hours.

Although it is generally believed the well is in the Viola lime, many field men think it has penetrated the top of the Simpson sand. The determination of this fact will be quite important since it will be running very high if in the Simpson and will have a good opportunity for finding Wilcox sand production. On the other hand, if it is in the Viola lime its chances for Wilcox production will depend to a large extent upon the thickness of the Viola.

A number of tests are being started in the vicinity. This district has had a few flashy wildcat shows, but none of them compared with the performance of the Simms well. Although previously skeptical of the general area, oil men are warming up to its possibilities and considerable trading is reported in the vicinity. Consolidated Pipe Line Company has run a two-inch line to Laster 1 from Pearson field.

Three Gas Wells at Oklahoma City

Shallow sands in Oklahoma City field did much to redeem themselves during the past week by yielding three gas wells. The most important of these was probably the Wirt Franklin's Lowery 1, in SWc NW NW Section 12-11-3w, three miles northwest of the discovery well. This well showed 30 million feet of gas when tested with a Haliburton tester. It is shut down at 4010 feet waiting on the cement to set. This is in the Tonkawa sand.

Tulsa.—The open flow gauge of the Greater Seminole field taken during the 24 hours ending 7 a. m. April 16, was 463,198 barrels.

The recovery by fields was as follows:

Little River, 91,394 barrels;
Carr City, 16,662 barrels;
Maud, 16,882 barrels;
Mission, 38,859 barrels;
Bowlees, 44,976 barrels;
Earlsboro, 73,662 barrels;
Seminole City, 42,620 barrels;
Searight, 10,951 barrels;
St. Louis, 127,192 barrels.

These figures will be used for proration purposes during the period from April 15 to May 1.

Pushing the above test for importance was the Indian Territory Illuminating Oil Company and Foster Petroleum Company's Alice Bodine 1, C NW SE Section 24-11-3w. The well is about a quarter of a mile north and west of the discovery producer. Casing was set at 4866 feet in the upper part of the Layton, with the bottom of the hole at 4877 feet. The mud was being bailed down when the gas started coming through, and increased until it is now estimated good for 67,000,000 cubic feet daily, or the largest gasser yet found in the field. The discovery well, only other well to carry gas in the Layton, was good for 49 million feet with a pressure of 1700 pounds, or one of the largest pressures in the Mid-Continent. Rock pressure on the Alice Bodine well has not been gauged as this is being written. This big gas yield came after the five tests that had earlier tested the Layton had found salt water. This development proves the existence of the third pay in the field, the Tonkawa and Layton, and the deep oil producing horizon found by the discovery well. The earlier salt water discoveries, particularly in the Layton, however, has it limited to a rather small area, or else it is very erratic and spotted.

The Indian Territory Illuminating Oil Company-Foster Petroleum Company's Fortson 1, SE SE NE Section 24-11-3w, northeast of the Bodine test, is good for 28 million cubic feet of gas from the Tonkawa series, in which it is bottomed at 3953 feet. Since tests in this immediate vicinity had failed to appear favorable in this horizon its findings were rather surprising. Gas from this well is being used for fuel for drilling other tests.

The discovery well continued to show a declining output together with increasing water recovery. It is now down to 3500 barrels of oil daily and more than 400 barrels of water per day.

Little River Shallow Production Increases

New wells in the Gilcrease-Cromwell horizon in the extreme south end of the Little River field are finding good production. Texas-Independent companies' Hotulke 2, SEc Section 22-7-6, topped the sand at 3128 feet and at 3162 feet flowed 2403 barrels in 24 hours. The well is one of the best yet found. Gypsy Oil Company's Cotcha 8, west offset, did 1802 barrels. Independent-Texas Companies' Carpenter 1, NEc Section 27-7-6, first Gilcrease sand well of the area, flowed 1911 barrels. This company's Carpenter 2, south offset to No. 1, found a hole full of water at 3161-67 feet, after drilling out the plugs.

Success of shallow operations in this district has prompted Sinclair Oil & Gas Company to test the same stratum in Seminole City pool. The company's Cudjo 5-B, SW NE NW Section 35-9-6, is rigging up. A number of tests showed sand or oil through rotary mud when development was underway but it was passed up in the rush to the rich Wilcox sand horizon.

T. B. Slick's Wilson 1, NWc Section 30-7-6, south of Little River, has 600 feet of sulphur water in the hole from the Wilcox sand at 4506-11 feet.

State's Deepest Producer Drills Deeper

Fox Wood and Healdton Oil & Gas Company's Gragg 2, SWc Section 29-18-4w, Crescent district of Logan County, and the deepest producing well in the state, is drilling deeper. The well is at about 6700 feet in what is thought to be the Sylvan shale. This was topped at 6650 feet. The well is making better than 100 barrels per day flowing by heads from the Hunton lime.

Wildcat Developments Feature Week in Kansas

WICHITA.—Two wildcat tests featured development the past week in Kansas. Gypsy Oil Company completed a Wilcox sand producer near Caldwell, Sumner County, along the Oklahoma-Kansas line, and Shawver & Dickey et al have a shallow chat producer about 12 miles south of the Valley Center field in Sedgwick County.

The Gypsy well, Williams 1, NW SE SW Section 16-35-3w, flowed 60 barrels the first hour after reaching a depth of 4782 feet in the Wilcox. The well had a show of gas at 4763 feet, with the top of the Wilcox at 4770 feet. The top of the oil pay was 4781 feet. The second hour it did 50 barrels, after which it was pinched to about 25 barrels hourly. It flowed 480 barrels of 42 gravity oil in 11 hours. Two 250-barrel tanks are up, and additional tankage is being rushed to completion.

Shawver et al's Robbins 1, NWc SW Section 21-28-1e, south of Wichita, in Sedgwick County, topped the chat at 3080 feet and at 3087 feet made 60 barrels in two hours and an estimated 1,000,000 feet of gas. The well is probably good for several hundred barrels of oil daily on the swab.

New Valley Center Wells Increase Production

New completions in Valley Center area sent production of that district to a new high of nearly 28,000 barrels, an increase of nearly 3000 barrels over the previous peak. The district has 38 producing wells. The gain was partly due to Skelly Oil Company, Hazlett, Bradford, Frazier & Davis' Wilson 5, NE SE NE Section 1-26-1w, which did 1300 barrels in 24 hours. The first seven hours of swabbing this well did 400 barrels. It is in the center of the field, but doubtlessly will cause the starting of additional tests.

Townsite operators were encouraged when the Plains Oil Company's School land 1, NEc SE SE Section 36-26-1w, filled up 2000 feet with oil from the Simpson sand at 3412-14 feet. This test is on the south edge of the townsite and practically surrounded by dry holes. At present only eight of the 19 tests on the townsite are drilling. Three will probably be plugged without going to the producing sand's depth, and the remainder will await the completion of the drilling tests. In the southwest area of the townsite, Robertson et al's Whittaker 1, SEc SW NE Section 36-25-1w, filled up with water at 3442 feet.

Western Kansas Has New Strikes

Phillips Petroleum Company's Legleiter 1, NE NW SE Section 10-16-18w, north of LaCrosse, in Rush County, is estimated good for three million cubic feet of gas and is spraying oil. The production is from the Gorham horizon found at 3571 feet. The tools are hung up in the hole due to cavey formation.

The same company's Joseph Schmeidler 1, NWc Section 20-12-17w, near Hays in Ellis County, and three miles south of the company's Shutts producer completed late last year, swabbed 106 barrels in eight hours from 3536 feet in the Gorham sand.

Barbara Oil Company's Lytle 1, NE NE SW Section 12-33-14w, important wildcat of Barber County, southwestern Kansas, is plugging back from 4646 feet to the level where it had 25 million cubic feet of gas.

Central Kansas

Wichita.—The leasing play in central Kansas is spreading northward. The latest territory to feel any active leasing campaign is between the Hillsboro field of Marion County, and the town of Clay Center, Clay County. A number of larger companies are taking an active part. Prairie Oil & Gas Company and Carter Oil Company are said to be among the larger purchasers. Considerable geophysical surveying has been done in the district.

Plan Test to 6700 Feet West of Oklahoma City

Tulsa.—A deal has been completed whereby Mid-Kansas Oil & Gas and Ramsey Petroleum Companies will drill a 6700 foot test in Section 19-12-1w, west of Nicoma park, 11 miles east of Oklahoma City. Ramsey Petroleum Company blocked some 10,000 acres in townships 12-2w and 12-1w several years ago. A dry hole to 4500 feet was completed. The block is on a core-drilled structure.

Shawnee Safety Banquet May 6

Shawnee, Okla.—A safety banquet will be held for the supervisory forces of the Seminole area by the Safety Division, Mid-Continent Oil & Gas Association here on May 6th. J. Burr Gibbons, vice-president of The Oil Well Improvements Company, and manager last year for the International Exposition, will be toastmaster.

The following speeches will be delivered: "Accident Prevention in the Petroleum Fields" by H. N. Blakeslee, petroleum representative, National Safety Council, Chicago; "Theory and Application of Safety" by Elmo D. Murphy, chairman Mid-Continent Division, National Safety Council and Safety Engineer Mid-Continent Petroleum Corporation; "Safe Operation of Air and Gas Lift" by F. W. Robson, Division Production Superintendent of the Carter Oil Company, Seminole; "Responsibilities in Foremanship" by D. J. Wallace, Director Safety Division, Mid-Continent Oil & Gas Association.

Those who are connected with any branch of the petroleum industry and whose duties include the supervision of workmen to any degree, have been urged to attend. Tickets can be obtained from the association offices at 308 Tulsa Building, Tulsa, at any time before five o'clock May 4. Plates are $1.50 each and only 350 can be accommodated.

Scouts Convention at Wichita

Tulsa.—Plans for the Mid-Continent Oil Scouts and Land Men's Association convention to be held April 26 and 27 at Wichita, Kansas, are practically complete. Friday, the 26th, will be spent in registration, with preliminaries of the golf tournament getting under way in the afternoon. Finals will be played Saturday afternoon.

Friday evening will be the annual banquet. Fred Hill, president of the association, will be toastmaster. It is planned for the Mayor of Wichita to make the welcome address, with Rex L. Dawson, chairman of the association's board of directors, responding. Three other speakers will have places on the program.

A business session will be held Saturday morning at 10 o'clock. At noon, Wichita oil men will entertain with a barbecue for the scouts. The annual dance and frolic will be held Saturday night. A bridge tournament will be held for the ladies.

Registration and all business sessions will be at the Broadview hotel.

It is hoped that this year's meeting will see the taking of steps toward an organization of national scope. R. T. Lutz, chairman of the National Oil Scouts, is expected to be present and to address the Mid-Continent oil scouts and land men.

Beckham Deep Test

Tulsa.—Bucy Stone Company is moving in material for a deep test in the C SW NE Section 23-12-24w, 18 miles from Sayre, in Beckham County, Western Oklahoma. The wildcat is on a 20,000 acre block and will be drilled with rotary to about 4000 feet and will go to 6500 feet if commercial production has not been attained. This will be the first real deep test for the Sayre district.

Prairie Re-Elects

Tulsa.—All officers of the Prairie Oil & Gas Company were re-elected at the annual stockholders meeting held in Independence, Kansas, on April 9. W. S. Fitzpatrick is chairman of the board, Nelson K. Moody, president; Dana H. Kelsey, vice-president, and general manager; A. B. Hookins, treasurer, and John Hollihan, secretary.

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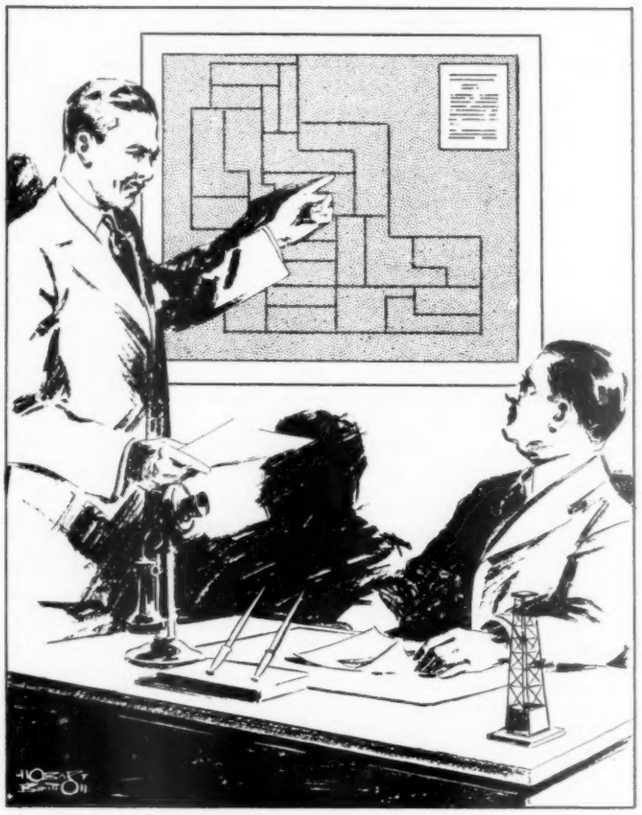

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BEAUMONT HOUSTON SHREVEPORT FORT WORTH

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Ward County Well Opens New Type Producing Area

FORT WORTH.—Gulf Production Company's light oil discovery well on the G. W. O'Brien ranch, which was reported last week as having given Ward County its second oil pool, showed a substantial increase in both oil and gas when deepened to 2631 feet in soft gray sandy-lime formation, or 31 feet in the main body of pay. This well is located at the center of the NW¼ of SW¼ of Section 19, Block "F," G&MMB&A Survey, and near the town of Wickett on the Texas Pacific Railroad.

Several unusual conditions have appeared in the O'Brien discovery well that indicate it may be new type of producing area. The formation is somewhat loose and tends to sand up the hole, while the gravity of the oil averages above 38° (corrected) and the gas yields about two gallons of gasoline per thousand cubic feet, both pronounced as being practically free from sulphur. This strike is located on the Fort Stockton-Hendrick production trend, and is the best grade of oil produced in any appreciable volume along this trend. This is true of the gas also.

Steps were being taken early this week to complete the O'Brien well at 2631 feet after a liner is set to prevent the hole from sanding up. The well has 181 feet of open hole, with 10-inch pipe cemented at 2450 feet. Steady flows of oil are expected to follow the installation of a large string of tubing. The well is credited with having flowed 435 barrels of clean oil in six and one-half hours open flow test, while on Saturday the well was opened for two hours after cleaning out sand to bottom and made 167 barrels in first flow and 57 barrels on second head during this brief period. The crew is working daylight hours, and a limited amount of storage has been erected, since Gulf Pipe Line Company is to complete before the end of this week a 4½ mile four-inch line from the well to a point near Monahans, where connection will be made with Gulf's West Texas trunk line system. The latter was purposely routed from Midland via Monahans, thence to the Hendrick field in anticipation of a strike being made sooner or later on the O'Brien, or Hutchings ranch by Gulf Production Company.

Heavy Gas Showing

The heavy gas flow developed from the shallow horizon along the Fort Stockton-Hendrick trend in Northern Pecos County, near two shallow flowing wells of the Pecos Valley Oil Company, was drilled by O. J. Perren and associates on the H. J. Eaton ranch in Section 27, Block 3, H&TC Survey. This particular section was held under lease by the California Company until shortly before the oil strike was made. Perren et al's Eaton 1 logged the top of the salt at 1090 feet, with a surface elevation of 2497 feet, and encountered a hole full of water at 1120 feet. A flow of about 3,000,000 feet of dry gas with spray of water from above was reported at 1490 feet, and the volume of gas increased to about 20,000,000 cubic feet, according to early estimates, when deepened to 1502 feet. Three direct offsets to this producer are to be started promptly.

Disappointing results yielded by the bailing test given Friday by Penn Oil Company and associates on their wildcat test on the E. G. Bowles ranch, Reeves County, have occurred before in this general area. This wildcat encountered oil and gas pay at 5175-77 feet on the previous Friday, and the hole filled rapidly with fluid, which was believed to be mostly oil by the crew and owners. Since the hole was cased only to the 1820-foot level with eight-inch pipe, actual tests of the fluid was deferred until a string of six-inch could be lowered. In the meantime the Penn Oil Company, Magnolia Petroleum Company and others interested in the test proceeded to buy leases and royalty interests. A showdown given Friday for production revealed only a small amount of oil riding the column of water.

Plans are underway to go deeper, and it is quite probable that a real deep test will be made should commercial production not be encountered within a reasonable depth. Amerada Petroleum Corporation owns a one-half interest in the well and 3,840-acre drilling block, and Atlantic Oil Producing Company has a quarter interest, while Magnolia Petroleum Company owns one-eighth. Penn Oil Company, which drilled the well, held only a 1/16 interest, but when oil was encountered the outstanding 1/16 interest held jointly by Geo. Lyles and Eastland Oil Company was purchased by the former for $50,000 cash. This deal also included 800 acres outside of the original block.

New Pool Opened

Wildcat activity in Crockett County aroused interest late last week when the joint test of W. A. Moncrief and W. W. Donnelly, Fort Worth operators, on the J. S. Todd ranch, Section 35, Block "WX," GC&SF Survey, bailed a small amount of oil from saturated lime formation at 1337-65 feet. This oil tested 28° gravity at a temperature of 80°, and such showings have appeared in other tests drilled in this general vicinity. Moncrief et al's Todd 1 is located at center of the northeast 40-acre tract in the section, and definitely assures a new shallow oil pool, with an estimated production of 50 barrels daily on pump. The best pay was encountered in last four feet of sandy lime drilled when the hole was carried to a total depth of 1369 feet. The well has about 400 feet of oil in the hole, with six-inch casing set at 1293 feet, but is showing little gas. The hole is believed free from water, and

Pure Oil Company's West Texas Production in Deal

Midland, Texas.—Lion Oil & Refining Company, El Dorado, Arkansas, is making a detailed check of the producing properties of the Pure Oil Company in the Hendrick field with expectations of making a purchase of same this week.

Pure Oil Company has 39 completed wells on 13 40-acre units that are credited with an estimated daily potential of 278,803 barrels, with a daily allowance during the last half of April of 12,239 barrels. Pure Oil Company also has about 620,000 barrels of oil in storage in the field.

plans are to give the pay a light shot before putting on pump.

The Scarborough ranch in Northern Winkler County appeared to have another failure in sight early this week when Shell Petroleum Corporation and Llano Oil Company's Scarborough 5 failed to show for a producer at 3515 feet. This test is in the southwest part of Section 3, and about three-quarters of a mile northeast of production.

Application of more back pressure to the Group One Oil Corporation (Texon Oil & Land Company's University 1-B), which brought the depth record to the Big Lake field, with production coming from pay at 8500-23 feet, appears to be beneficial to both oil and gas production. Back pressure was recently increased to 190 pounds, and during 24-hour period ending Monday morning the gas flow reached a new peak of 23,003,000 cubic feet. The oil flow was reported at 2,300 barrels of 56° gravity during the same period, such being within a few barrels of the peak. This deep well has produced more than 230,000 barrels of high gravity oil to date.

Kentucky Lease

Tulsa.—Shippey, Madden and Paris Gas Company of Kansas City, Mo., has secured 11,000 acres of leases in Hopkins County, Kentucky, and will drill ten tests. Several thousand acres have also been accumulated in Christian County.

Exposition Opens Office

Tulsa.—Downtown offices of the International Petroleum Exposition have been opened at 124 West Fourth Street, Tulsa. This is the first move in making ready to carry through the arrangements for the coming exposition, October 5 to 12.

The first literature to be mailed from the new headquarters will go to the concerns which had space in 1928. These will be given the opportunity to have the same space this year, except where changes in the grounds and plant will make such impossible. The space holders of 1928 will be given three weeks to make a decision on the 1929 exposition. After that, another three weeks will be given for signing contracts.

Both the executive committee and the grounds committee made an inspection of the plant last Saturday. The chief object of this was to select a site for the small convention hall, which is to be provided. This will be built to give organizations a place for meetings during the exposition. The management this year will endeavor to have technical and other associations to hold sessions in Tulsa during the exposition.

As yet the executive committee has held no meeting on the matter of selecting a manager for 1929.

Victor Shenk, who was retained from the staff of 1928, has charge of the headquarters, pending the selection of a manager.

Limit Proration Tests in Winkler County to Conserve Pressure

FORT WORTH, Texas.—The Winkler County proration advisory committee has taken steps to discontinue the semi-monthly open flow tests for determining potential production figures on old completions as far as possible in order to retain accumulated pressure on the oil and gas pay, and also to promote closer cooperation between operators and proration enforcement through having an active field committee on the ground daily. This committee will be composed of seven field representatives of producing concerns, the local deputy supervisor of the oil and gas division of the Texas Railroad Commission, and the field umpire, who will act is chairman, according to L. E. Barrows, manager of the Fort Worth division office of The Texas Company and newly elected chairman of the advisory committee. This committee of nine is charged with responsibility of acting on local matters that have heretofore been largely handled by the umpire, thereby giving the operators the benefit of a "jury" of well qualified men.

The committee of field men are as follows: R. A. Alsobrook, umpire and chairman; H. H. Fitzpatrick, deputy supervisor; A. B. Irion, Southern Crude Oil Purchasing Company; Dave Davenport, Shell Petroleum Corporation; Fred Seeley, Humble Oil & Refining Company; Tom Pickering, Gulf Production Company; H. H. Brewster, Pure Oil Company; J. C. Creeden, Skelly Oil Company, and C. C. Miers, Republic Production Company.

Winkler County producers have been privileged to refrain from opening wells for potential gauges since the early part of proration enforcement by taking a five per cent cut each 15 day period from the previous potential rating of each well which continues to make pipe line oil and shows no appreciable drop in back pressure. This procedure has met with comparatively little opposition, as it only applies to such wells that owners elect not to open up for testing. In compiling new potential production figures for the period beginning April 16, Umpire Alsobrook only tested 58 wells out of 568 reported in the county, and the combined potential for the county was placed at 2,212,008 barrels, with a maximum allowance of 150,000 barrels daily.

The tendency of many wells to produce a greater percentage of water and to continue to decline in back pressure necesitates the application of a greater cut than the heretofore customary five per cent. reduction in potential production, and the field committee will recommend the amount. The majority decision of the field committee is to be final as to each well under dispute, although the owenr of said well will have the right to appeal to appeal the decision to the advisory committee, and in turn, if necessary and with the recommendation of the latter body, to the Railroad Commission.

According to Barrows, the advisory committee fully realizes that local conditions affecting particular wells and leases in Winkler County are individual problems, and if the newly appointed field committee functions as planned, and has the support of operators, much can be accomplished in maintaining harmonious relations, and equitable proration in the county.

New Wildcats Produce Oil in West Texas

SAN ANGELO.—Two new wildcat oil strikes and a semi-wildcat gasser were contributed by the West Texas district during the past week. This development came from Pecos, Cooke and Crockett Counties, and followed close on the heels of a prolific oil strike in Ward County and a threatened strike in Reeves County.

Penn Oil Company et al's Reeves County wildcat, which was listed last week as a prospective oil producer, made little oil and lots of water when given a bailing test at 5177 feet, but Gulf Production Company's wildcat producer in Ward County fulfilled early expectations, having produced 390 barrels of clean oil on a five-hour open flow test Monday. Refinery test of this oil reveals a small sulphur content.

Perren and associates Eaton 1, located in the west corner of Section 27 and slightly more than one mile east of the two small flowing wells of the Pecos Valley Oil Company in northern Pecos County, was running casing to handle a flow of about 15 million cubic feet of gas early this week, with tools lost in hole. This semi-wildcat has a total depth of 1502 feet, and gas is coming from a horizon that is more than 100 feet above the usual oil pay in this pool.

Crockett County's wildcat strike was made by Moncrief, Donnelly et al's Todd 1, which was showing for a commercial pumper early this week at 1369 feet, while Cooke County made a bid for attention when the Mid-Kansas Oil & Gas Company's wildcat test on the Lackey ranch developed 1700 feet of 39 gravity sweet oil shortly after logging sandy lime pay at about 3750 to 3756 feet. This test has about 300 feet of open hole, and is having trouble with cavings, but promises to make a small producer in its present status. It is located in the southwest corner of Section 202, Block 1-A, H.&T.C. Survey, and in the northeastern part of the county.

Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Gulf Coast Production Up 3950 Barrels

HOUSTON. — Texas Gulf Coast fields produced a daily average of 134,100 barrels during the week ending April 13, a gain of 3950 barrels over the previous week, and a gain of 30,000 barrels over the corresponding week of 1928.

The week's increased resulted chiefly from continued successful development of deep sands at Barbers Hill and new territory in Sugarland field. The gain shown over the same period of 1928 results almost wholly from production in these two fields. The second week in April, 1928, had an average daily yield of 600 barrels at Barbers Hill, while Sugarland was not discovered as a probable oil source. Last week Sugarland, with 14 producers, produced 12,100 barrels daily, and Barbers Hill produced 11,700 barrels daily.

Barbers Hill, since October, 1928, has emerged as a production factor, from approximately twentieth place to fourth place, passing Hull field in output last week. The four leading Texas Gulf Coast fields, Spindle Top, Pierce Junction, Sugarland and Barbers Hill, are producing 71,500 barrels daily, or about 50 per cent. of the Gulf Coast's crude.

Outside of new production at Barbers Hill and Sugarland, the status of producing domes in the Texas Gulf Coast has undergone no great change in the past year. Spindle Top shows a loss of roundly 2000 barrels to 32,000 barrels; Pierce Junction, a gain of 3000 barrels to 15,000 barrels; Humble, a gain of 3000 barrels to 7400 barrels; Hull, a loss of 2000 barrels to 9400 barrels; Orange, a loss of 2000 barrels to 2900 barrels; Blue Ridge, a loss of 2500 barrels to 3200 barrels; West Columbia, a loss of 2000 barrels to 6200 barrels; Goose Creek, a loss of 1000 barrels to 6300 barrels; South Liberty, a gain of 1200 barrels to 5700 barrels, and gradual, normal decreases in the old fields, Saratoga, Damon Mound, Batson, Sour Lake and West Columbia.

Sugarland

Houston — Three new producers in Sugarland field during the past week had a combined initial yield of 2257 barrels. This brings the total number of wells to 17 without a single dry hole.

Humble Oil & Refining Company completed Brazos Farm 3, Sugarland Industries 6 and Brazos Farm 4. Brazos Farm 3, located 300 feet northeast of Dew 1, flowed 1200 barrels Sunday from 3568 feet with 300 pounds rock pressure. No. 4, located 300 feet north of Nelson 1 and 1700 feet southeast of Camp 1, flowed 257 barrels Monday from 3441 feet after cleaning the hole of wash water. Sugarland Industries 6, located 450 feet from the south line and 150 feet from the west line of the Wm. Stafford Survey, flowed 800 barrels late last week from 3733 feet.

Two Humble Oil & Refining Company wells due for completion within the current week are Brazos Farm 5, which set 3400 feet of 6⅝-inch casing April 14, with 3438 feet of hole drilled. C. C. Nelson 2 was in sandy shale April 15 at 3487 feet. Brazos Farm 6, located 300 feet west of Nelson 1, was preparing to spud; Sugarland Industries 7 was drilling near 1600 feet, Camp 3 was nearing 3000 feet in sandy shale and lime, Camp 4 was a location and a derrick was up for Deatheredge 1, an edge location.

Brazoria Wildcat

Houston.—A new wildcat operation destined to attract wide interest among Gulf Coast operators is Empire Oil & Refining Company's Brock 3, preparing to spud on the west side of Stratton Ridge salt dome, Brazoria County. Stratton Ridge stands out as a point of some of the most futle exploration of any Coastal dome, having been drilled for more than 20 years without any commercial oil being developed. Wildcatters on and around Stratton Ridge dome include more than a score of major companies and as many individual concerns.

Empire abandoned Brock 1 at 2240 feet in cap rock at its location 1000 feet north of the southeast corner and 3500 feet west at right angles from the 176-acre Brock lease, Jared E. Grace five leagues. No. 2 test was then located 1000 feet west of No. 1, and missed the cap rock to find gypsum for a failure at 3711 feet. Brock 3 is located 800 feet west of Brock 2, and is scheduled to miss all dome formation.

Boggy Creek

Houston.—Humble Oil & Refining Company has completed A. Purvey 1 on the Purvey 51-acre tract in Anderson County, Boggy Creek district, for four-million cubic feet of dry gas. Sand topped at 3512 feet was drilled to 3688 feet. Location of this well is 450 feet from the southeast corner of the D. Clark Survey.

Humble Oil & Refining Company's Roberts 2, another Anderson County location at Boggy Creek, was drilling early this week at 1450 feet in shale as a new operation there. J. C. Holt 1, on the Cherokee County side of activity at Boggy Creek, is rigging up to start, and Elliott-Clark A-3 is standing as a location. Humble's Neches River 1 location has been plugged back to 900 feet from 3784 feet to straighten a crooked hole. Gauger 1, on a 120-acre Anderson County tract, J. Trimmer Survey, reached 3620 feet early this week.

Boggy Creek field averaged 3500 barrels daily for the week ending April 13.

Hackberry

Lake Charles, La.—Pure Oil Company's Duhon 2, at Hackberry, Cameron Parish, flowed 200 barrels of 23.4 gravity crude by heads through 2½-inch tubing from 3132 feet early last week. Duhon 3, a Pure Oil Company well in the same field, flowed 300 barrels of 23.5 gravity crude by heads through 2½-inch tubing from 3177 feet.

At Sulphur dome, Calcasieu Parish, Union Sulphur Company has abandoned Fee 743 test in salt at 2500 feet, and J. W. Watson et al's Louisiana Land Company 1, at Sulphur, was abandoned at 4200 feet in hard sandy lime.

Slow Up Development Work on Clay Creek Dome

Brenham, Texas.—Sun Oil Company has temporarily suspended development work on inside locations on its Clay Creek shallow dome, Washington County, but is producing and shipping about 3500 barrels of crude daily from its nine wells in tank cars to the Gulf Coast. Some of these wells are on restricted flow. Three tests on the northeast, south and west sides of the producing area that missed the shallow pay are being deepened for lower oil or gas horizons. Mrs. J. Grote 2 is coring at 2515 feet, according to reports from the field late last week, while the Schirmir 2 is reaming to lower pipe at a total depth of 2388 feet. Sun Oil Company's Schlottman 1 is reaming at 2348 feet.

The shallow pool, which is known as the Brenham dome, and located about 10 miles southwest of the town bearing its name, is averaging about 400 barrels of 14-16 gravity oil daily from 38 wells. Considerable salt water is accompanying this oil production, which is being marketed as fuel oil.

Waller Wildcat

Brenham, Texas.—The Texas Company's Young 1, a wildcat test three miles from Raccoon Bend field and on the Waller County side of the Austin-Waller County line, is drilling at 2250 feet in shale. It is being drilled as a probable tension discoverer to Raccoon Bend field. The Texas Company has 715 acres in this tract.

New Texas Fault Field Typical Shoe String Development

(Continued from page 22)

north limit of production, Ratcliff et al drilled New 1, abandoning it about two years ago. It was a dry hole, but showed some oil in the Edwards lime, and offered enough encouragement for the drilling of another test by the same interests on the nearby Briscoe land: Ratcliff et al's Briscoe 1. Briscoe 1 was finished last spring, and it, like the test on the New land, showed some oil in the Edwards lime, but was not a producer.

Ratcliff et al's two tests were both on the southeast side of the fault; and about the time of the drilling of the Briscoe 1, there was a third test in that immediate vicinity on the same side of the fault which had an important bearing on the later development. That was the Luling Oil & Gas Company's Carter 2, located east and slightly south of wells now producing on Humble Oil & Refining Company's leases on the Johnson land, Luling Oil & Gas Company's test in the spring of 1928 showed some oil in the Edwards lime, but was never finished as a producer. Correlating the records of these four wells: the two Ratcliff tests in the extreme north end of the area and that of the Luling Oil & Gas Company farther south, all three on the south dip of the fault; and the Rayor test still farther south, but on the north side of the fault; it was assumed that the fault line lay on the line between them; as it has actually proved to be located; and the play in leases then embraced the entire intermediate area.

Just outside the limits of the town of Luling, in the south edge of what is now the Salt Flat field, a test that was ultimately completed as Lutex Oil Company's Davis 1, somewhat sidetracked the interest from the possibilities of Edwards lime production by finding oil in commercial quantity in the Austin chalk; coming in in the summer of 1928, making 150 barrels per day, and being distinguished as the first chalk producer of the county. The Salt Flat field is frequently called the Joe Bruner field by reason of the fact that this chalk producer, Davis 1, which started drilling as Sullivan et al's test, was later taken over by Joseph Bruner et al; Mr. Bruner later becoming affiliated with the Lutex Oil Company, which completed the well. The Lutex Oil Company next completed an offset, Wilson 1, as the second chalk well of the field; and it was followed by the Golden West Oil Company's Wilson 2 as the third chalk producer at Salt Flat. Golden West Oil Company's Wilson 2 was offset by the Sun Oil Company's Mrs. Cora Malone 1, which missed the pay in the Austin chalk, but decided to try for production in the Edwards lime. It encountered its first oil saturation in the lime at 2716 feet, and the main pay at 2735-43 feet. The well flowed 735 barrels of 35 gravity oil during the first 24 hours when completed on October 10, 1928; and it has the distinction of being the discovery Edwards lime well at Salt Flat.

Salt Flat Production Passes Million Barrels Per Month

LULING, Texas.—Monthly crude production from the Salt Flat field passed one million barrels during March, with a total recovery of 1,042,894 barrels from 151 flowing, swabbing and pumping wells. The bulk of this production is coming from the Edwards lime horizon, and averages 35-36 gravity, but some operators have been successful in making commercial wells in the serpentine and Austin chalk formations. Total recovery from the field since its discovery in June, 1928 to April 1 is placed at 2,483,681 barrels, with production for the past four months as follows: December, 198,805 barrels; January, 517,224 barrels; February, 642,330 barrels; and March, 1,042,894 barrels.

Having averaged 33,642 barrels daily during March, Salt Flat also became one of the most active drilling areas in the state, but with an 80-cent crude price in effect the six companies engaged in marketing the oil readily absorbed every barrel produced. Tank car shipments served as the principal means of transportation on this crude, with a 10 cents per 100 pounds freight rate applying on shipments to Houston and 11 cents to Texas City. Magnolia Pipe Line Company was the only buyer in the field with direct trunk line connections, until March 26, when the Shell Petroleum Corporation began operating its six-inch extension line to Austin station, where connection is made with the West Texas trunk line to Houston.

Sun Oil Company discovered the Edwards lime horizon in the field October 10, 1928, and promptly erected a 24-car capacity rack and gathering system. Sun posted Mid-Continent gravity scale prices for a basis of paying off royalty, and also paid similar quotations when outside oil became available, but later buyers that invaded the field failed to meet the price, thus causing Sun Oil Company to lower its quotation. Sun Oil Company advanced its price to $1.00 April 2, representing an increase of 20 cents, and Shell Pipe Line Company and Humble Pipe Line Company followed. During March, Sun Oil Company ran all oil produced by the seven independent producers in the field not served by their own private lines, or racks, while the only oil handled by Magnolia Pipe Line Company was confined to common carrier runs for The Texas Company and Atlantic Oil Producing Company.

The Petroleum Pipe Line Company of Texas, which is affiliated with Cranfill &

SALT FLAT PIPE LINE RUNS, MARCH, 1929

Company—	Lease	Barrels	Total
PETROLEUM PIPE LINE COMPANY	Run to Rack		
Cranfill & Reynolds	Smith	41,002	
	Jackson	1,527	
	Northcutt	4,358	46,887
MAGNOLIA PETROLEUM COMPANY	Run to Tank Farm		
The Texas Company	Merriweather	12,943	
	Moses	325	
	New	863	
Atlantic Oil Producing Company	Davis	3,106	17,137
GULF PIPE LINE COMPANY	Run to Rack		
Gulf Production Company	O. Connelly	87,252	
	J. J. Davis	13,703	
	Jim Smith	1,790	
	W. L. Smith	45,441	
	Allen & Tiller	20,519	
	M. Tiller	54,554	
	R. W. Carter	45,547	
	J. O. Wright	33,771	302,577
SUN OIL COMPANY	Run to Rack		
Sun Company	Cora Malone	22,891	
Abercombe & Harrison	E. I. Moses	29,080	
M. K. Towens	W. W. Hickman	14,868	
Golden West Oil Company	Joseph Wilson	10,506	
	Cora Malone	1,423	
Nash, Windform & Perry	Joseph Wilson	5,495	
	W. F. Davis-A	1,317	
	W. F. Davis-B	564	
Turman & Brown	Jackson	3,464	
Carl Bros. et al	Cora Malone	2,672	
The Victor Company	Walker	1,043	
	Golding	243	93,566
SHELL PIPE LINE COMPANY	Run to Rack		
Shell Petroleum Corporation	R. W. Carter	7,222	
	R. W. Malone	21,487	
	Wm. Moses	48,802	
	Jim Smith	3,583	
	W. L. Smith	45,441	
	Wm. Smith	70,175	
	Floyd Tiller	149,231	301,864
HUMBLE PIPE LINE COMPANY	Run to Rack		
Humble Oil & Refining Company	W. O. Allen	28,643	
	J. J. Davis 1	3,603	
	J. J. Davis 2	10,921	
	W. F. Davis	1,725	
	I. S. Tiller	26,049	
	Wm. Smith	22,730	
	Moses & Baggett-A	76,407	
	Moses & Baggett-B	49,760	
	M. B. Johnson-A	23,190	
	Flov Gray	30,764	
	I. D. Wright	3,679	
	J. R. Tiller-A	3,452	280,923
TOTAL PIPE LINE RUNS			1,042,894
DAILY AVERAGE RUNS			33,642

Reynolds, Inc., handled 46,887 barrels via its rack for the latter interests, and is also seeking additional oil for purchase.

Humble Pipe Line Company's runs from the field were confined to that produced by Humble Oil & Refining Company, as was also the case with Gulf Pipe Line Company in handling Gulf Production Company's production. However, Humble Pipe Line Company is scheduled to complete its eight-inch trunk line from the field to West Columbia early in May, and will then discontinue tank car shipments.

The pipe line runs by companies from the Salt Flat during March are as follows:

Company	Barrels
Gulf Pipe Line Company ..	302,577
Shell Pipe Line Company...	301,804
Humble Pipe Line Company.	280,923
Sun Oil Company	93,566
Petroleum Pipe Line Company	46,887
Magnolia Pipe Line Company	17,137
Total 1,042,894	

Osage Runs

Casper, Wyo.—A resume of the operations and pipe line runs from the Osage field during 1928 was made public here last week. The pipe line runs totaled 146,216 barrels, an increase of 24,797 barrels over the 1927 production. There were seven new wells completed in the field during the year, and the total number of producing wells at the end of the year was 175. Daily average production was 475 barrels, and daily average per well was 2.21 barrels.

Howard Structure

Newcastle, Wyo.—One of the most interesting wildcat wells being drilled in Wyoming this season is that on Howard structure, in Weston County, by the Wyoming Drilling Syndicate, a California company. New equipment is being moved in, among which is a new 120-foot rotary derrick to replace the standard one which has been in use. The well showed considerable light green oil and gas when it was shut down last December at 4350 feet with about 700 feet of 6⅝-inch casing in the hole.

Frannie

Frannie, Wyo.—Private lands between Deaver and this town are being leased in large blocks to Connaghan & Kirk of Cheyenne. Cody Petroleum Company also, it is said, is leasing considerably property in this territory. This land is not on Frannie structure, recently proved for oil and on which the Midwest Refining Company has two drilling wells, and the Producers & Refiners Corporation and the Prairie Oil & Gas Company have each one shut down test.

Magnolia Pipe Line Runs Drop Substantially in March

DALLAS, Texas. — Magnolia Pipe Line Company's daily average crude runs from Oklahoma, Texas, Louisiana, Arkansas and Kansas sustained another sharp drop during March, having averaged 95,498 barrels as compared to 103,709 barrels daily average in February, and 110,091 barrels daily in January. This loss was largely confined to the high gravity sweet oil sources in Oklahoma and Texas, where Magnolia Petroleum Company is adhering to a policy of postponing all unnecessary development work. Further declines in crude runs will probably lead to a more aggressive campaign for oil, since the equivalent of about one-third of the oil run by Magnolia Pipe Line Company during March was shipped from Beaumont docks during the month to Atlantic Coast plants of Standard Oil Company of New York and allied interests.

Crude runs by Magnolia Pipe Line Company mentioned above represents oil produced and purchased by Magnolia Petroleum Company in the five states, but does not include the large volume of oil handled daily on a common carrier basis from Texas, Oklahoma and Arkansas fields to the Gulf Coast for Atlantic Oil Producing Company, The Texas Company, Warner-Quinlan Company of Texas, Pure Oil Company and others.

Magnolia Pipe Line Company runs from Oklahoma fields averaged 43,759 barrels daily during March, representing a decline of 8,512 barrels when compared to the average maintained in February. This drop was reflected in storage accumulation in Oklahoma during the month, as stocks increased at average rate of 3,443 barrels daily, as compared to a daily average increase of 8,320 barrels during February, with 9,887,778 barrels on hand in this state at close of March. Daily average runs from fields in Texas averaged 38,648 barrels during March, or a decline of 1,934 barrels when compared with the average for February. However, Magnolia Petroleum Company purchased 5,000 barrels of Hendrick field crude daily throughout the month from Pure Oil Company on contract, and same was transported to Beaumont by Atlantic Pipe Line Company. This movement will be terminated April 15, account of Magnolia Pipe Line Company having started operating its 10-inch trunk line extension from Midland to Hendrick field April 12. Magnolia Pipe Line Company will begin taking 15,000 barrels daily from Pure Oil Company in Hendrick field late in May, thus partially offsetting the loss in oil runs from other districts.

Water shipments of crude from Beaumont docks during March aggregated 982,618 barrels in 15 separate loadings, such being the largest volume of crude exported in more than a year. In contrast to the heavy movement of crude oil, tanker shipments of refined oils declined from 51,738,890 gallons in February to 33,802,545 gallons in March, but this was largely due to the company storing for better price conditions. Water movement of fuel oil amounted to 5,752,370 gallons in March, or slightly more than the totals for the previous month.

Total crude runs made by Magnolia Pipe Line Company, exclusive of common carrier business, from fields in Oklahoma, Texas, Louisiana, Arkansas and Kansas during February and March, 1929, follow:

	February Totals	March Totals
Wewoka-Cromwell	941,651	923,926
Hewitt-Graham	133,894	144,752
Cushing	96,918	109,397
Healdton	187,103	74,124
Seminole District	66,732	61,916
Yale	37,216	42,346
Augusta (Kansas)	32,484	35,816
Burbank	87	79
Total Okla. and Kan.....1,496,085		1,392,356
Luling District	287,285	302,996
Mirando District	130,012	149,158
Crane County	122,555	133,192
Winkler County	125,944	123,967
Roberts-Howard County (Deep)	101,027	95,713
Electra	82,815	90,095
Panhandle District	78,705	82,162
Burkburnett	61,625	61,272
Lockhart-Lytton Springs ..	33,797	35,201
Archer County	20,865	23,687
Mexia-Wortham	19,152	21,014
Iatan & Howard shallow...	21,146	18,524
Desdemona-Comanche Co...	13,641	16,257
Corsicana-Powell	9,749	12,415
Corsicana (Heavy)	7,267	9,364
Ranger-Olden	8,222	9,212
Stephens County	7,612	9,098
Petrolia-Clay County	2,072	2,479
Thrall-Williamson County .	977	1,041
Pancla County	1,832	916
Shelby County	...	311
Total for Texas 1,136,300		1,198,074
Hackberry	111,305	89,165
Bull Bayou	37,109	40,778
Pine Island	26,195	29,279
Cotton Valley	20,281	24,707
Haynesville	2,333	5,775
Total for Louisiana	197,223	189,704
Rainbow	64,698	89,717
Smackover	66,574	74,124
El Dorado	10,439	11,360
East El Dorado	2,554	5,117
Total for Arkansas.....	144,265	180,318
Total for five states.....2,973,873		2,960,452

Resume Mule Creek Runs

Casper, Wyo.—Announcement was made here this week by Illinois Pipe Line Company to the effect that it is preparing to resume its runs from the Mule Creek field in the northeastern part of the state, and that it will probably resume operations about May 1. The Ohio Oil Company and the Argo Oil Company have most of the producing wells in the field.

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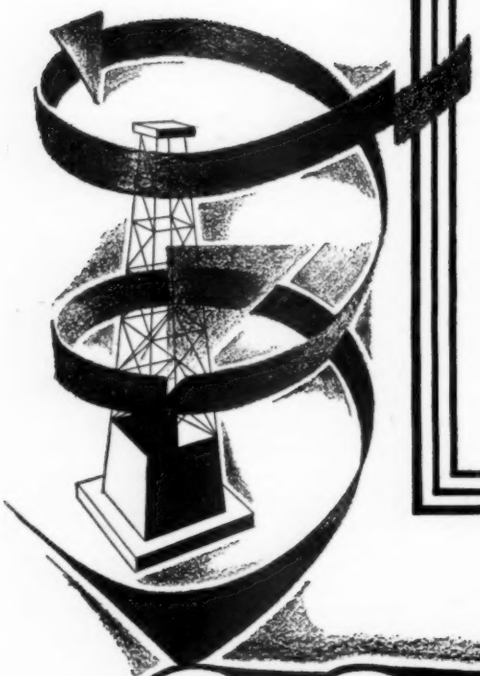

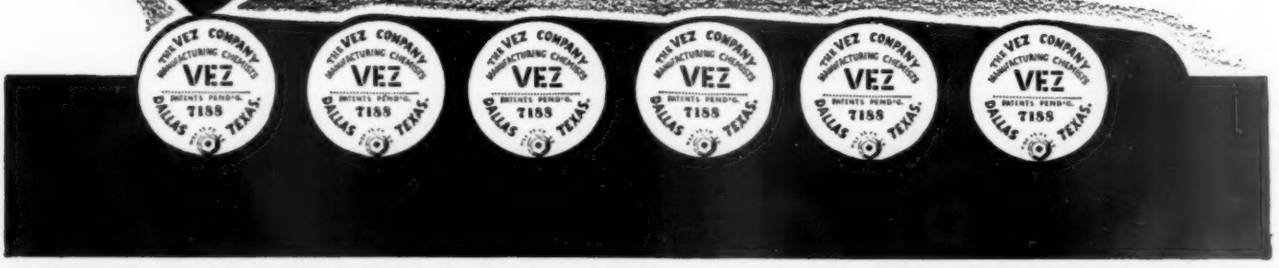

MODERNIZED FORMULAS

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Santa Fe Springs Production Takes Another Drop

LOS ANGELES.—In the absence of the usual number of completions, production at Santa Fe Springs fell another 5000 barrels during the week, and probably will not show much resistance to a still greater drop until the O'Connell zone comes to the rescue. Only three wells were added during the week, the combined initial production totaling exactly 6000 barrels. The field decline was somewhat slower than that of the past, due to the more settled condition of the wells, averaging about 100 barrels per well per week, as compared with a drop of 300 barrels per well per week recorded during a part of February.

Twenty unsuccessful attempts to cement casing over the Upper Clarke zone have been made since the discovery of the sand two months ago, and it now seems that the formation will not be an important factor in field production at any time in the future. The zone averages less than 100 feet in thickness, and its greatest possibilities seem to lie in the fact that it may be produced with the O'Connell.

Temporary Slump

At first thought, Santa Fe Springs seems on a definite downward trend. A careful analysis of the situation, however, shows that the present slump has been caused by the failure to complete a large number of wells in a wide belt which encircles the field and which failed produce in the Buckbee and Nordstrum zones. Naturally, when the Clarke and O'Connell zones were discovered, operators did not kill good wells producing in the Buckbee for deepening to the new-found zones. It was the edge wells which jumped at the opoprtunity of finding something below the point at which they failed in the upper zones.

This widespread drilling campaign on edge leases has been slightly misleading. When a large number of inside wells start testing the O'Connell at points where all of the upper zones were productive, the field total undoubtedly will show an increase. The O'Connell zone already has demonstrated that it is one to be reckoned with, and, when extensively drilled, will show a large initial production. The cementing problem will also apply to this zone, but it will be much less perplexing than in the Clarke sands. One fairly satisfactory water shutoff has been accomplished in the O'Connell zone, while an unsatisfactory one has practically proved that the formation will produce clean oil when the water is excluded from the top of the sand. The intense heat found in the Clarke zones, and to some extent in the lower O'Connell sand, will not block the development of the best part of the O'Connell zone.

Interest in the field is still centering around the efforts to find a cement which will set satisfactorily in the Clarke zones. Chemicals have been added, ice has become almost a standard ingredient and a general switching around from one cement to another has been the order. Whether the cement has been setting too soon, or immediately upon contact with the heat, or has been affected after it has found its place, remains a mystery. Heat hardens cement under ordinary conditions, adding weight to the theory that it has set too soon.

Associated Oil Company's Clarke 2, discovery well in both the Upper and Lower Clarke zones, is again holding the center of interest in the field. A second attempt to shut off the water at 7802 feet appartntly has been successful and a production test is being made. The well was drilled to 7922 feet. Ice water and blocks of ice were used in the second attempt to make a producer of the deepest well ever drilled in the field. The State Mining Bureau tested the well and found that the incoming water was not enough to prevent another production test. Clarke 2 used the longest string of casing ever run and a successful shutoff would mean much to the science of drilling. The temperature at the bottom of the hole was about 210 degrees. About 120 feet of formation is being tested. of which 50 feet is good oil sand. Such a thin body of sand at such a great depth is not expected to make a large well at best. The scientific angle of completing the well is almost as important as the size of the producer.

Los Angeles.—April 22 has been definitely set by Umpire F. C. van Deise as date for California curtailment to start. All fields in the southern part of the state and as far north as Ventura are to be affected, and will reduce production at least 100,000 barrels.

McAdams and Rhode have completed Number 2 in the extreme eastern edge of Santa Fe Springs field, as an upper Clarke zone producer at 7470 feet. The well will make at least 3000 barrels of clean oil from 60 feet of oil sand and is the first producer in this zone in more than 20 attempts. This well was considered as too far out for production.

Make Tenth Try

Richfield Oil Company is about to break all existing records, without trying to do so, in Elliott 2, which has been cemented for the tenth time over the Upper Clarke zone. In the latest attempt, about 90,000 pounds of ice was used to cool the formation. The well was drilled to 7190 feet, with the casing peacefully reposing at 7100 feet. The body of shale found over the oil sand in Elliott 2 was much thinner than ordinarily required at such a depth. A thick shale body is usually essential for cementing below 5000 feet in California, unless a lucky break is obtained.

Several wells have paused to await the outcome of other wells now being tested in the Upper Clarke zone. Italo Petroleum Corporation's Brunson 2, George F. Getty's No. 21 and Standard Oil Company's Weisel 13 are waiting on tests of Associated Oil Company's Fulton 3 and other wells, before continuing in the Upper Clarke zone.

General Petroleum Corporation's Jalk 111, which has been in the limelight on several previous occasions, produced not only hot salt water when tested in the Upper Clarke zone. It was impossible to lower the fluid below the 700-foot level. Several tons of ice was used but the cooling effect did not overcome the trouble. This well is located in an area which produced satisfactorily in the

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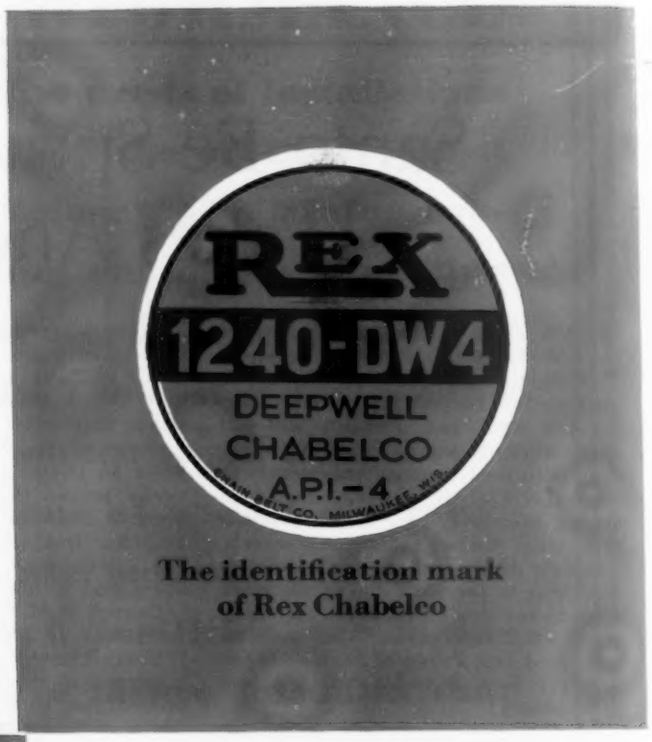

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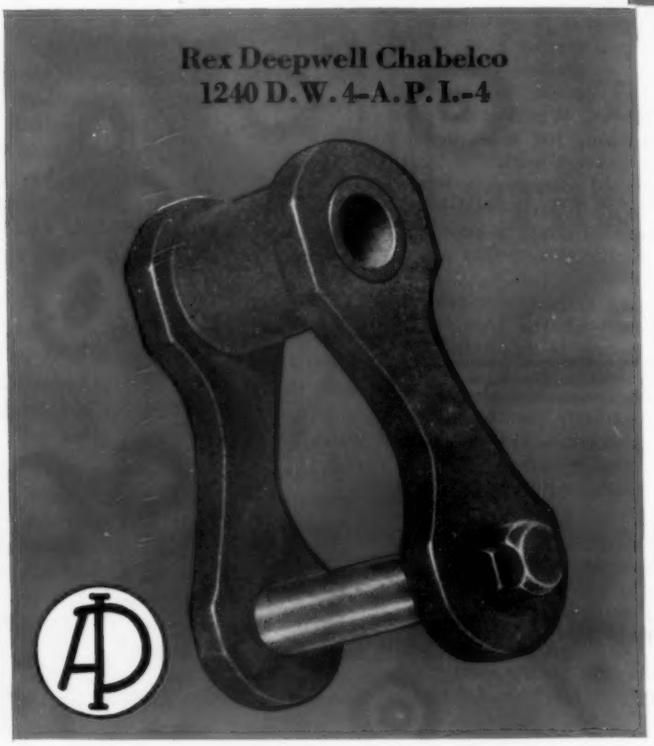

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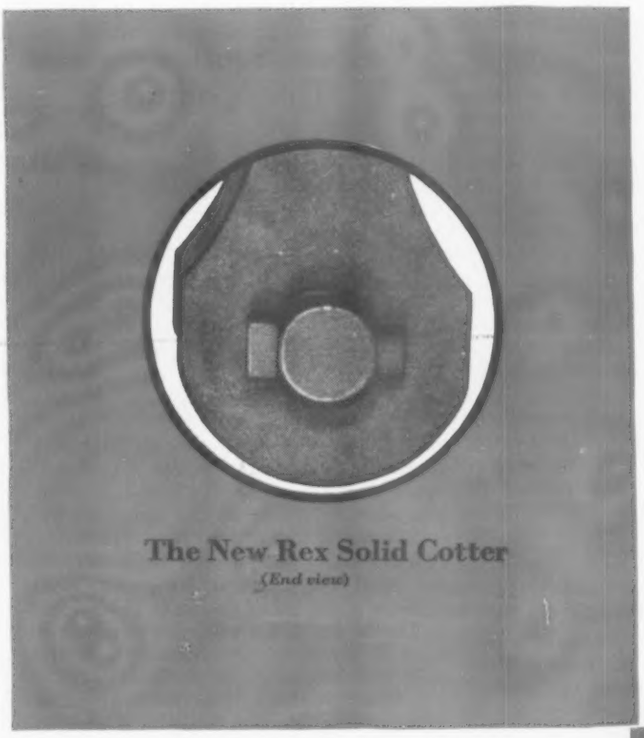

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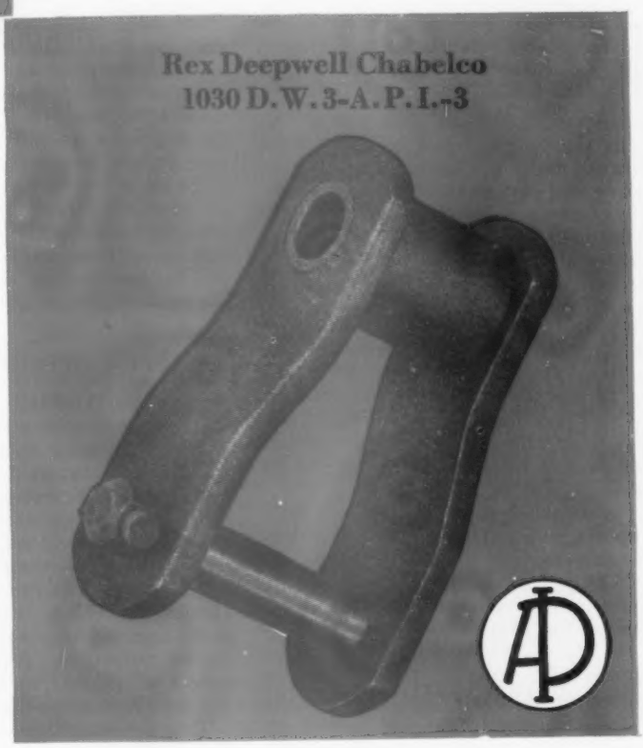

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CHABELCO

The Greatest Chain That Ever Hit the Oil Fields

Say you saw it in The OIL WEEKLY

Meyer sand but failed in the Buckbee zone.

George F. Getty's No. 21, recently cemented with imported German cement, was tested, but showed that water shut-off had not been made. This well was tested in the Upper Clarke zone at 7035 feet.

Other wells which were tested unsuccessfully in the Clarke zones were Standard Oil Company's Koontz 7, Jordan 8 and The Texas Company's Patterson 11. All will be recemented.

Shell Oil Company is running 6⅝-inch casing to cement at 6666 feet in Slusher B-1. The well was drilled to 6787 feet and is being tested in the lower part of the O'Connell because of gray sand in the upper part. The Slusher lease showed a high percentage of water in the Buckbee zone.

The Texas Company's Baldwin 4 is being tested in the O'Connel zone at 6840 feet. The outcome of this test will vitally affect a large acreage.

Lower Clarke Zone

General Petroleum Corporation has encountered the Lower Clarke zone in No. 228 at 7400 feet, making the second well that has found the sand. The formation was found about 400 feet shallower than in Associated Oil Company's Clarke 2, the discovery well.

George F. Getty's No. 19, discovery well in the O'Connell zone, is flowing about 900 barrels of oil and 3500 barrels of free water, the latter showing a steady increase and the oil showing a downward trend.

General Petroleum Corporation, already the largest producer in the field, obtained the lion's share of production during the past week, with the completion of two good wells. They were 137-B and 137-C, completed with initial production of 1000 barrels and 2600 barrels, respectively. The former was finished in the Nordstrum zone at 5132 feet and the latter in the Buckbee at 5909 feet. The Nordstrum zone producer showed a cut of 30 per cent., while No. 137-C cut 12 per cent.

The Texas Company's Standlee 5 was completed with an initial production of 2600 barrels from 5887 feet, but the oil showed a cut of 30 per cent.

The Buckbee zone has shown a high percentage of water in nearly all recent completions.

Field production dropped to 145,000 barrels, of which the deep zones accounted for 124,000 barrels.

Santa Barbara

Santa Barbara, Calif.—A revival of drilling in this district, which three years ago was regarded as an important light oil producing area, is anticipated, following streaks of oil sand found in two wildcat tests and the successful development of the Elwood field, a few miles away. Commercial production of a very light oil was developed two years ago, but water broke in and spoiled practically the entire field.

Ninth Elwood Producer; 33,000 Barrels

Santa Barbara, Calif.—Barnsdall Oil Company and Rio Grande Oil Company have completed their ninth consecutive producer in the Elwood field Luton-Bell 4, which came in with an initial production of 4000 barrels from 3440 feet. The new producer did not prove additional acreage but its location, nearer the ocean than any other completion, makes the strip adjoining the beach appear best. The oil is 39.2 gravity and shows a cut of one-tenth of one per cent. The gas flow is two million cubic feet. Luton-Bell 4 brings the field production up to 33,000 barrels.

Elwood Community 1, the companies' outpost test about 6000 feet east of the field, was tested again at 5170 feet, but showed only a small amount of light oil and gas.

Petroleum Securities Company has abandoned Storke 1, which was located about three miles east of production, at 5560 feet. This well cut only a few thin streaks of oil sand. The abandonment of this well leaves only two outpost wells drilling, with twice as many shut down.

Mt. Poso

Bakersfield, Calif. — Pressure is being brought to bear upon the General Petroleum Corporation to force the operation of many of the best wells in the Mt. Poso field, following the announcement that the Glide interests are anxious to ascertain the potential production of their leases in the field. Agreements have been made in the past, resulting in the complete shutting in of all oil in the field, but it now appears that at least a test will have to be made. It is believed that if wells on the Glide properties are opened up, other operators will follow and the field will soon be in full operation. A pipe line has been finished to the field, making the marketing of oil a simple matter.

Expect Curtailment Order In California April 20

Los Angeles.—The curtailment program is rapidly shaping itself into a definite form and it is expected that production in California will be reduced more than 100,000 barrels at one stroke, possibly from an order issued by the umpire not later than April 20. Already, committees representing Santa Fe Springs, Long Beach, Huntington Beach, Richfield, Torrance and Rosecrans have met and passed resolutions authorizing the umpire to issue orders which will reduce production in the state by almost 100,000 barrels.

The General Committee representing the Richfield operators is composed of F. W. Lake, Kenneth Hunter and George W. Johnson.

Torrance is represented by W. R. Cowan, Charles Dore and L. Vander Leck.

The Rosecrans General Committee is made up of F. A. Fortine, A. C. Rubel and A. S. Hayes.

Operators in the Fullerton, Brea, Olinda and Coyote fields will meet early this week to appoint a General Committee.

Some friction has arisen concerning the reduction of production in the Long Beach field, but this resistance probably will be overcome.

Ventura South Extension Disappointing

Ventura, Calif.—The southern extension of the Ventura field has proved disappointing, only one well having been completed in a small area which was regarded at the time of its discovery as very important. The M. K. T. Oil Company, which opened up the extension nearly a year ago, is drilling four wells, two of which have passed the 6000-foot level. Percy 1 is fishing at 6740 feet, or about 1000 feet below the point at which the first and only well was completed. Foster 2 and Foster 3, both offsets to the discovery well, are drilling around 6000 feet, with the formation running to oil sand and shale. Foster 1 is flowing about 500 barrels of oil and a similar amount of water. It was completed as a 1200-barrel well at 5800 feet. The flow of water was high from the beginning.

Shell Oil Company completed Taylor 30 as a 600-barrel producer at 6505 feet. The oil was 22.5 gravity and showed a cut of 30 per cent. The company is drilling 20 additional wells in the field.

Little trouble is anticipated in further reducing production in the field when the general curtailment order is issued.

Long Beach Production Up; Complete Deep Wells

Long Beach, Calif.—The Long Beach field responded to the completion of several good wells and showed a gain of more than 1000 barrels during the past week, proving that this greatest California field will be a critical factor for many months to come.

Richfield Oil Company completed Meader 2 with an initial flow of 2400 barrels at 7021 feet, maintaining the company's large production in the field. The oil was 30 gravity and showed a cut of only one per cent.

Despite its high cut, Dabney-Johnson's No. 25 was an unusually good well, with an initial production of 2000 barrels from 6600 feet.

E. L. Doheny succeeded in placing on production Nelson 2, which came in with an initial flow of 1600 barrels. The well was completed at 7112 feet. The oil was 26 gravity and showed a cut of 20 per cent.

Other wells completed during the week were the Shell Oil Company's Kent-Garth 5, a 500-barrel producer from 7847 feet, A. T. Jergins' Trust 25, completed at 7808 feet with a production of 400 barrels, Macmillan Petroleum Company's Ifland 2, a 600-barrel well at 5880 feet, and the Shell Oil Company's Pickler 10-A, a 500-barrel producer at 6455 feet.

Some of the wells completed during the week were the deepest ever finished in the field.

Lawndale

Los Angeles.—The Lawndale field not only retains its mysterious status of a week ago, but it has taken on additional questionable phases. Wells are drilling in all parts of the supposed field, the depths of the most advanced ranging from 6000 feet to 6850 feet. All of these deep tests are groping around like a blind man, pouncing on any little streak of oil sand which offers some chance at production. Idle wells are beginning to show up here and there, pending more favorable developments in the deeper tests. Pacific Western Oil Company is attempting to place Howland 2 back on production, following the sudden appearance of water after the well had produced for two weeks. Sovereign Oil Company's No. 1, now drilling at 6850 feet, is the deepest well in the field and is a full 1000 feet below the level at which production was expected. Superior Oil Company is testing Ritter 1 at 6710 feet, and will make another test of Vance 1 at 6230 feet. Nearly a dozen wells are coring below 6000 feet, with the outlook none to rosy in any.

Seal Beach

Los Angeles.—If the curtailment program does not become effective immediately, production in the Seal Beach field is expected to pass 50,000 barrels within 30 days. Associated Oil Company, Standard Oil Company and Marland Oil Company, holders of all the acreage in the main part of the field, are busily developing the Wasem zone and have succeeded in almost doubling production since January 1. These three companies are now drilling or deepening 12 wells.

Huntington Beach

Los Angeles.—Wells recently started as deep tests in the Huntington Beach field are expected to result in additional tests, with the whole thing eventually developing into an extensive deepening move, unless the larger operators succeed in discouraging deep drilling at such an inopportune time. American Oil Producers, West Coast Petroleum Combination and the Rex Oil Company have started wells for the deeper zones, with Standard Oil Company and Richfield Oil Company standing on the sidelines. The two last named are not expected to make deep tests unless it becomes necessary to protect their acreage.

Coalinga

Coalinga, Calif. — General Petroleum Corporation has succeeded in getting an actual test of production from Oschner 2, which recently started flowing gas and oil after the swab has been run a few times as a "feeler" on what the well would do at 6850 feet. Gas traps were installed and the oil separated for 24 hours. Actual production was 650 barrel of 60 gravity oil and 20 million cubic feet of gas. The test was made after several efforts were made to kill the well for deepening. The gravity of the oil indicates that it is producing from the same zone as the discovery well, 6½ miles northwest. The oil is showing a cut of two per cent., a condition which has caused some worry. The small amount of water is not viewed with alarm.

Just what steps will be taken to halt further development of the field remains a question to operators, who are drilling ahead at all possible speed. In some quarters, it is believed that permission will be granted to finish the drilling wells but the starting of new wells will be frowned upon. Secretary Wilbur has openly announced that he thinks the development of the field at this time is a menace to the industry. Most of the field is covered with government permits, so it is evident that production may be controlled if necessary. Under the plan of the Regional Committee of the American Petroleum Institute, production must not be increased in the field, and the present production of 3500 barrels must be reduced by 10 per cent. It is believed that if several wells are completed, they will not be produced at this time.

Operating companies are pushing rapidly ahead with their wells, with several tests approaching the extremely hard formation found around 5500 feet. New locations are being made and several wells will be spudded in if further development is not stopped.

Carpenteria

Carpenteria, Calif. — Continental Oil Company is fishing for a liner in Franklin 1, which recently created much excitement here, only to fall flat as a producer, having been unable to drill below 4110 feet. The company is rapidly going ahead with plans for two more wells and is expected to start drilling operations in both within 10 days.

Summerland

Summerland, Calif.—Leasing activity in and near this town has shown a sharp increase since the announcement that George F. Getty, Inc., had acquired all available leases in the townlot sector, plus a long stretch of beach frontage. Shell Oil Company has staked a location on Section 18-4-25, largely on the strength of locations made during the past two weeks. Lincoln Drilling Company has acquired about 200 acres and 2500 feet of beach frontage, and will drill a deep test on the property.

Potrero Outposts

Los Angeles.—Two outpost wells have been started near the Potrero field during the past week, largely as the result of a small quantity of oil recently produced by the James Pollard wildcat a mile northwest of production. The new wells are Petroleum Securities Company's Parent 1, located about 2000 feet north of the Pollard well, and the Midlands Oil Company's No. 1, staked about 1000 feet south of the Pollard well. The latter offsets the Country Club lease on the west.

Potrero

Los Angeles.—Associated Oil Company has abandoned the idea of shallow production in Potrero 1 and is drilling ahead for the main producing zone. Several tests were made around 3300 feet, but a water shutoff never was effected. Cypress Petroleum Company is ready to spud in a test a short distance from production. California Eastern Oil Company has suspended operations in Pollard-Community 1, located a mile from production and which created a lot of excitement when tested around 4100 feet. The well was drilled to 4525 feet, showing mostly gray sand below the point at which the test was made.

North Casper Creek

Casper, Wyo.—The Michael C. Weisman deep test on North Casper Creek structure, northwest of Casper about twenty-five miles, encountered an excellent showing of oil this week in a stray sand at 2014 feet. The bit was but six inches in the sand when the report was made, so that it is not known what amount of production may develop. It is the operator's intention, however, of drilling the well to the 3200-foot horizon where the Midwest Refining Company had such a spectacular showing of oil several years ago, but which developed water in a short time. The structure is considered very favorably by many geologists and operators hereabouts who were not convinced that the Midwest test was an adequate one on which to judge the field. Weisman has two gas wells on the structure, both furnishing fuel for the pre ent test.

Pondera

Conrad, Mont.—An interesting extension to the Pondera field was made last week with the completion of Kevin Corporation's well considerably to the west of the proved production of the field. The well checked about four feet higher structurally than the nearest producer, and would seem to prove that contrary to previously advanced theory, the trend of the field will be to the westward; heretofore it was thought that it would run to the north.

Kern County Wildcats

Bakersfield, Calif.—The status of Kern County wildcats has changed considerably, with two abandonments, three new locations and the suspension of two wells in doubtful districts. Richfield Oil Company has abandoned Kerwin 1, in the Buttonwillow area, at 5210 feet, following oil and gas showings which were not regarded as commercial possibilities. The Ohio Oil Company has staked a location on Section 9-31-22, in the McKittrick sector, while The Texas Company has abandoned Aldridge 1 at 5015 feet in the same district.

THE NATURAL GAS INDUSTRY

Lone Star Gas Extension To Serve Four Towns

Dallas, Texas.—A new gas pipe line is to be built from Gainesville through portions of Cooke and Montague Counties to supply Linsay, Myra, Muenster and St. Joe, according to announcement by the Lone Star Gas Company.

These towns, which are being added to the pipe line system of the Lone Star Company, will be operated by the Community Natural Gas Company, which distributes gas in about 180 towns and cities of Texas and Oklahoma. St. Joe will be established as headquarters for the district.

This line will connect with the 16-inch main line of the Lone Star Company at Gainesville, and consumers of the district will thus have gas available from the 21 gas fields of the pipe line system.

Material for the new line is arriving on the ground and the work will be completed as soon as possible. This project is a part of the expansion program of the company, one unit of which is the proposed giant 20-inch line to be built from Petrolia to Fort Worth and Dallas. The Petrolia line will carry gas from Oklahoma and the Texas Panhandle fields.

Montana - Dakota Power Buys Gas Properties

Great Falls, Mont.—Montana-Dakota Power Company, in its $10,000,000 expansion program to carry natural gas from Montana through North Dakota to the Twin Cities, has purchased the Havre Natural Gas Company and the Chinook Natural Gas Company and that it is reported that it will purchase the gas lines of the Hardrock Oil Company which supplies Chinook and Havre from the Bowes structure, south of Chinook. The Bowes structure, consisting of more than 11,000 acres, is held by a trust known as the Bowes Syndicate, which is composed of the Forbes Brothers of Lewistown, Charles Bachellor of Great Falls, David Doud of Denver, R. H. Puxley of Long Beach, California, and W. H. Coburn, W. N. Rossberg, Louis Kaufman, and Carl J. Trauerman, all of Butte. The Bowes structure is considered one of the most valuable high pressure gas structures in the Rocky Mountain region.

Refugio Gas Field

Houston.—Mitchell Drilling Company's Mitchell 1, located 1½ miles east of Refugio field production in the recently completed Cummings 1 oil well, was running tubing with packer to shut off water at 4036 feet after bailing salt water in a test last week.

Houston Gulf Gas Company, leading operator and acreage holder in Refugio field, had an oil sand at 3679 feet in Fannie Heard 7, was bailing to complete Rogers 3 at 3672 feet, had a sand with no oil showing at 3147 feet in Shelly 7 and was preparing to drill-in Rose Lambert 2, the latter having a rich sand at 3646 feet.

Houston Gulf Gas Company was recementing to shut off water from surface pipe at 150 feet in Rooke 2 and had spudded Holmes Heard 4 late last week.

Dry Creek Well to Serve Billings Gas Line

Red Lodge, Mont.—Ohio Oil Company is starting a new test on the Dry Creek structure, Carbon County, which will be known as Northern Pacific 2, and which will be located about one-quarter mile east of the discovery well. The discovery well is shut in, awaiting completion of about nine miles of pipe line which will connect it with the trunk line of the Billings Gas Company from Elk Basin to Billings. It is good for about 11,000,000 cubic feet.

Magnolia Field Men Hold Annual Conference

Dallas, Texas.—The annual conference of superintendents, foremen and lease men of the Magnolia Petroleum Company, Magnolia Pipe Line Company and the Magnolia Gas Company was held here April 12 and 13. This method of assembling the key men of the field organizations for a joint conference was introduced by officials of the Magnolia Petroleum Company about 15 years ago, and it has been an annual event, excepting on several occasions when oil industry conditions would not justify the expense.

The opening day of the conference was devoted to general meetings in the morning and afternoon, with F. V. Faulkner, vice-president and manager of production, presiding at the morning session. The visitors were guests of the company at a luncheon, and the afternoon general meeting was conducted jointly by the following: M. J. McLaughlin, Dallas, assistant manager of production; Jos. Kilchenstein Dallas, general superintendent of production in Texas; L. C. Hawkins, Oklahoma City, division superintendent of production for Oklahoma and Kansas; and E. D. Holcomb, Shreveport, division superintendent of production for Louisiana and Arkansas. The morning session of the second day was devoted to departmental meetings, with heads of each department presiding, and at the close of these sessions the men were offered their choice of golf, baseball, theaters as a final event before departing for their homes. The annual banquet tendered by the company to the visitors and most of the employes of the general office at Dallas was held at the Adolphus Hotel Friday evening, with the wives of the men in attendance. A dance followed this event, with music by the Magnolia orchestra.

Protest Gasoline Tax Increase in Texas

Dallas.—It is expected that an attempt will be made at the special session of the Texas legislature, called at Austin for April 22, to increase the present gasoline tax of two cents per gallon, according to John F. Donohoe, president of the Mid-Continent Oil and Gas Association.

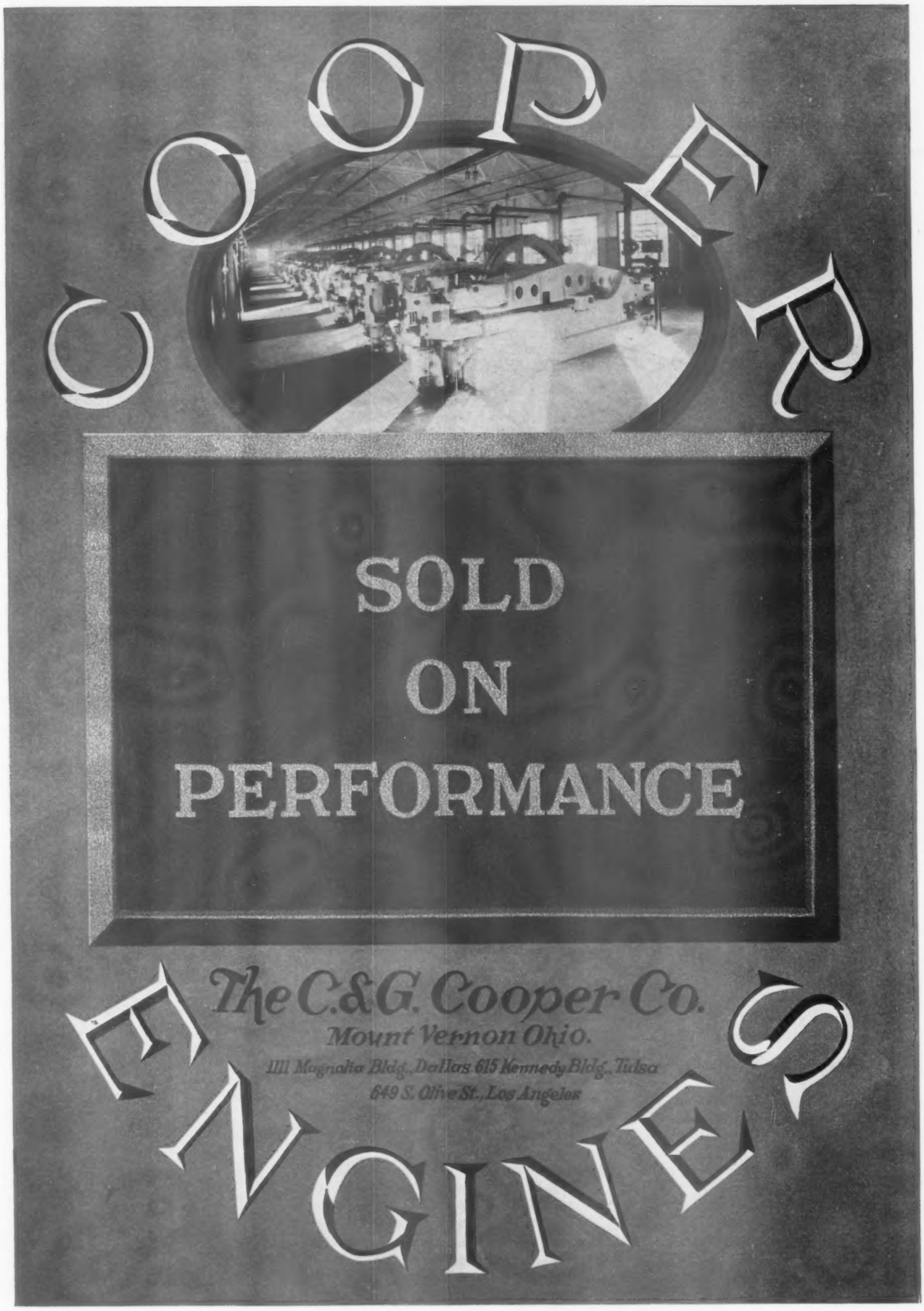
At a recent meeting of the Texas division of the association a resolution was adopted asking all members to file protests to the anticipated action of the legislature through their respective districts' senators and representatives. The tax already constitutes a heavy burden on the consumer.

Map Will Show Location Natural Gas Pipe Lines

In response to a widespread demand for information regarding the location of natural gas pipe lines, the United States Bureau of Mines, Department of Commerce, has been assembling information from the transporting companies regarding the location of their individual lines. The information has been transferred from company maps to base maps and the work is virtually complete so that the map should be ready for distribution before the end of the fiscal year. It is being printed for the Bureau by the United States Geological Survey.

Utilization of Waste Natural Gas

The utilization of natural gas which is going to waste in localities where the gas cannot be transported for use as fuel or returned to the sands to increase oil production is a problem of great importance, the Department of Commerce points out. The United States Bureau of Mines has undertaken studies dealing with the technology and economies of possible processes for converting natural gas into valuable products which can be transported to their respective markets economically. Liquid or easily liquefiable products such as formaldehyde, ammonia, methanol, as well as motor fuel can be made from natural gas. The studies will be directed to determine which of these products can be produced most profitably at the locations where natural gas is available.



Say you saw it in The OIL WEEKLY

Louisiana--Arkansas Field Notes

Two Important Gas Developments In North Louisiana

SHREVEPORT. — Arkansas Natural Gas Corporation's Morris 1 in NW SW Section 7-17-13, half a mile northeast of Ohio Oil Company's W. N. Raulston 1 in Section 12-17-14 that opened up a new producing portion of Champagnolle to the southeast, was successfully completed last week at 3037 feet. The well, completed in six feet of sand, made 161 barrels of fluid the first hour through a 1-1/16-inch choke, 12 per cent. salt water and eight per cent. basic sediment. On the following day it flowed 62 barrels in an hour's gauge through a 7/16-inch choke, but the salt water had increased to 35 per cent. The new producer is a connecting link between the northeast extension area and the southeast extension.

Ohio Oil Company's W. N. Raulston 1 is showing some decline in its oil yield. It's Friday's gauge was 1252 barrels of net oil through a 7/8-inch and a half-inch choke, with approximately the same amount of salt water. A 24-hour gauge the week before had shown 1578 barrels of net oil.

Next week plug will probably be drilled in two other tests near the Morris and Raulston wells. These two tests are Ohio's B. H. Raulston 1 in SE SE Section 12-17-14 and Oliver 1 in SW SW Section 7-17-13.

Two important gas developments occurred last week in North Louisiana. In East Carroll Parish, Palmer Corporation has completed O'Brien 2 in Section 6-19-11e, at 2337 feet, gauging 31,024 cubic feet of dry gas with 1050 pounds rock pressure. The gas rock was topped at 2330 feet. The new gas well is about one mile north of the first well.

Richland Field Extended

Richland Parish's gas field was extended one mile due east when Richland Operating Company's S. R. Humble in SE NW Section 30-16-7e, was completed at 2452 feet making 18 million cubic feet of dry gas. The well later developed pressure outside the pipe necessitating snubbing two-inch pipe in the hole and killing it to set and cement a string of four and one-half inch casing.

This made the fourth gasser that had either cratered or threatened to do so in this area in recent months. The same procedure is being followed in Magnolia Petroleum Company's Noble 1 in Section 36-16-5e. W. C. Feazel's Perdue A-1 in Section 6-15-6e, completed several months ago, later cratered and effort has been made to kill it. More than $200,000 has been expended in an effort to kill Arkansas Natural Gas Corporation's Thomasson well in Section 21-16-6e, which has a huge crater around the hole.

Atlantic Oil Producing Company and E. M. Jones, joint owners of Allen A-1 in Section 25-15-18, half a mile northeast of the discovery well of Mount Holly district, tested 11 joints of salt water through drill stem from 2849 to 2859 feet. A drill stem test from 2860 to 2865 feet later was missed due to the fact that the rat hole was filled with cavings and sand and the crew could not get the tester to seat itself. Finally two fourbles of drilling mud were obtained before the packing was perforated and the tester filled with gumbo and mud. It is planned to mud up the hole and cut a short core before running the testing tool again. This well topped the Nacatosh at 1770 feet and has an elevation of 185 feet.

Two and a half miles further northeast in the same district Flaucher and associates are drilling at 2325 feet after testing one fourble of salty mud from 2260 to 2270 feet in Bucks 1 in Section 7-15-17.

Discovery Well on Pump

Charles McDonald has placed the discovery well, Wilson B-1, in Section 25-15-18, on the beam and latest 24-hour gauge available shows it pumped 215 barrels of fluid in 24 hours, 1½ per cent. water and 8½ per cent. b.s. Meanwhile McDonald Brothers' Wilson A-1, a quarter of a mile south, is being deepened with cable tools from depth of 2857 feet. It is down to 2880 feet. This well was the first in the new area to show oil, and has several times produced some oil, having pumped between 15 and 25 barrels for two or three days from the 2857-foot depth.

Magnolia Petroleum Company is drilling at 2505 feet in M. & K. Wilson 1 in Section 25-15-18, and Root Refineries' Wilson 1 in the same section, an eastern offset to the discovery well, is down to 2402 feet. Charles McDonald has spudded in his Wilson B-2, 300 feet north of the discovery well, and is drilling below 300 feet.

Cumberland Petroleum Company is ready to spud in Burton 1 in Section 24-15-18 while George Kouri and associates have location for Henson 1 in the same section. Six miles north, Timberlake and associates are drilling at 1350 feet in Wright 1 in Section 25-14-18.

In Champagnolle, Magna Production Company is skidding derrick from its El Dorado Realty B-2 in NW SW Section 8-17-13, half a mile east of production in the northeast extension of Champagnolle, for the purpose of drilling a new hole.

In Bradley County, Ohio Oil Company is rigging up to resume drilling at 3217 feet in Southern Lumber Company 2 in Section 19-16-9. Ramage and associates have cemented bottom to perforate at the Nacatosh sand in Lawton 7 in SW NW Section 10-16-15, Union County (Smackover), while in the same section Skelly Oil Company is rigging up to drill deeper in Bilyew A-8, a test drilled by Unity Petroleum Company several years ago.

Of nine new locations in North Louisiana only one was for a wildcat operation. This is The Texas Company's F. M. Fuller 1 in NE NW Section 9-21-2w, Union Parish, near Bernice.

Five oil producers, seven gas wells, and four failures were completed last week. The best producer of the quintet was G. W. Zoder's King 1 in Section 13-10-1e, LaSalle Parish, Urania district, making 130 barrels at 1525 feet. Two small pumpers in the shallow Vivion district of Caddo Parish were completed in Bayou State Oil Corporation's Jolly 26 and 27 in Section 22-22-15, poducing 20 and 25 barrels, respectively, from depths of 1010 and 1040 feet. Hollifield and McFarland added Giller 18 in Section 10-16-15 in Union County, Aakansas (Smackover), at 1982 feet in the Nacatosh, making 20 barrels. In the same section and same formation, S. Richardson's Lawton 7 is making 30 barrels from 2087 feet.

Besides the East Carroll Parish gas well and the one extending Richland Parish, another important gasser was added during the last week when Magnolia Petroleum Company's Ira Cox 4 in Section 23-21-10 completed in the upper Trinity at 4557 feet, making 40 million cubic feet of gas.

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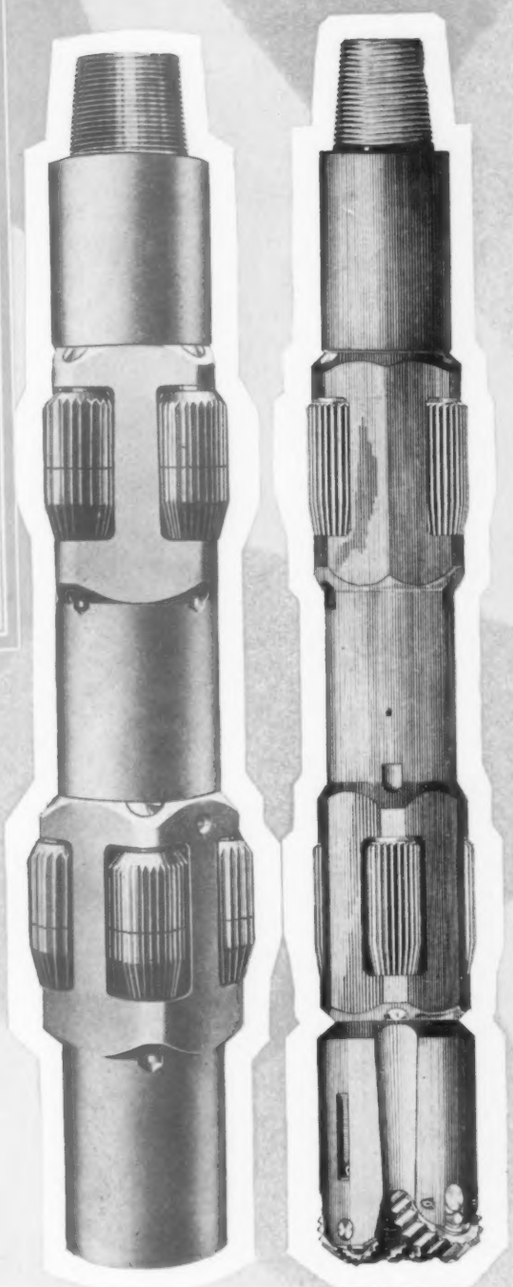

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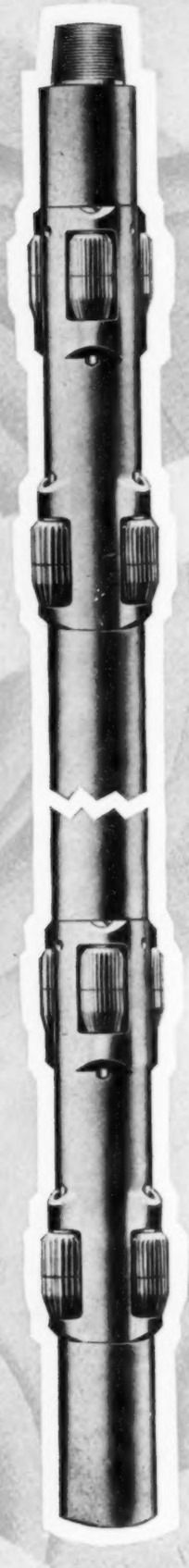

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HOUSTON LOS ANGELES

Production Rise Halted In March

Daily average shows decline of 37,000 barrels during month; the first sign of efforts to curtail over-production

By H. J. STRUTH
Staff Economist

FOR the first time since last November, daily average crude production has exhibited an indication of the petroleum industry's efforts to curtail over-production. During the month of March, daily average production showed a decline of 37,400 barrels; a decidedly more encouraging result than in February, when there was a gain of 50,550 barrels. During March, total crude production aggregated approximately 82,608,350 barrels, a daily average of 2,647,400 barrels, while in February the total was 75,170,200 barrels, a daily average of 2,684,800 barrels. On a 31-day basis, the total for February would have aggregated 83,228,800 barrels, whereas actual production during March resulted in a gain over February of 6,898,150 barrels. However, the daily average recorded last month indicates that some progress is being made to bring the national production curve down to the level of 1928. While this is the first encouraging sign in several months, the industry must not lose sight of the fact that production is still 187,388 barrels in excess of the daily schedule planned for the current year. The results for March show that California's daily average was 152,169 barrels above the daily average of that state during 1928, while Texas, Louisiana and Arkansas were credited with an excess of 71,095 barrels over their combined daily average of last year. The balance of the states, including Oklahoma and Kansas, registered a daily average below last year to the extent of 35,876 barrels.

In comparing the daily average production for March and February by individual fields, it is noted that all fields, with the exception of Texas, North Louisiana and the Eastern States, registered a decline during March. Texas, outside of the Gulf Coast, showed a gain of 19,150 barrels; Gulf Coast, a gain of 5450 barrels; North Louisiana, a gain of 100 barrels, and Eastern States, a gain of 300 barrels. In total production for the month of March, all fields registered a gain, which is accounted for by reason of comparing the results of a 31-day month with a 28-day month. Oklahoma showed a decline in daily average of 48,300 barrels; Kansas, a decline of 600 barrels; Arkansas, a decline of 350 barrels; Rocky Mountain States, a decline of 1350 barrels; and California, a decline of 11,800 barrels. These results are by far the most important developments that have taken place in some time and seem to lend courage to the conviction that the industry is at last beginning to heed the necessity for determined action to prevent a continuation of uneconomic practices. The fact that last month's results are only a beginning, although an encouraging one, should act as a check to any undue optimism in the ranks of the producers, as it is apparent that it will take considerably larger declines during the next several months to even begin to accomplish desired results. The results for the first quarter of 1929 indicate a daily average of 2,654,494 barrels, showing that we are just about 17,503,380 barrels ahead of schedule, or 194,482 barrels a day in excess of the 1928 average.

UNITED STATES PRODUCTION

The following is the gross production of crude oil in the United States during March, as compiled from daily averages reported by the American Petroleum Institute. There is a slight difference between the figures shown below and those beginning on page 75 showing the production by individual fields; the figures below are given in round numbers, while details by fields are the result of calculating actual American Petroleum Institute weekly estimates for each individual field.

	Average Daily March	Production Total March	Average Daily February
Oklahoma	666,500	20,661,600	714,800
Kansas	95,350	2,955,900	95,950
Texas (Outside Gulf)	662,500	20,537,700	643,350
Gulf Coast	147,750	4,579,700	142,300
No. Louisiana	35,800	1,109,600	35,700
Arkansas	74,250	2,301,200	74,600
Eastern States	108,850	3,374,700	108,550
Rocky Mountain	70,400	2,182,250	71,750
California	786,000	24,365,700	797,800
Total	2,647,400	82,068,350	2,684,800

New Work Gains

There was a rather sharp gain in new work during March, when 1677 wells were completed, compared with 1434 completions in February. Results were more successful during March, not only in the number of producers completed, but in the initial output of oil wells completed. Texas, Gulf Coast, and California registered declines in field operations, while all other producing areas showed increases in drilling activity. The initial production during March aggregated 468,000 barrels, or an average per well of about 500 barrels, while during February the initial aggregated 236,000 barrels, or an average per well of about 280 barrels. This shows that results were considerably more successful during March than in February. There was a gain of two per cent., however, in the percentage of dry holes drilled during March, as compared with February. The drilling hazard during March was about 32 per cent., while in February it was 30 per cent. The most successful results were recorded in Texas during the month where less wells were completed, while the initial production showed a gain of about 13,000 barrels. However, Texas registered a sharp increase in the percentage of dry holes drilled.

Fewer Wildcats

Wildcatting was less pronounced during March; 41 wells being completed in new territory, as compared with 49 in February. Four oil producers were completed in new areas during March, as compared with three in February. However, the initial of these wildcat wells was decidedly lower in March; 935 barrels, compared with 5510 barrels in February. All wildcat wells drilled in California during the month were failures, while in Texas only two out of 28 wildcat wells drilled resulted in flowing wells. The lack of any real strike in new territory during the month of March furnishes added encouragement at this time and precludes the possibility of danger from new pools in the immediate future. It is a well known fact, however, that even in the absence of new flush areas, the industry still has a big task ahead to prevent excessive production from proven areas.

Oklahoma Curtailment

The continuance of the conservation program, both on the daily proration scale and the Sunday shutdown plan as followed by a number of companies, resulted in a material reduction in the crude re-

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THE SEMINOLE:

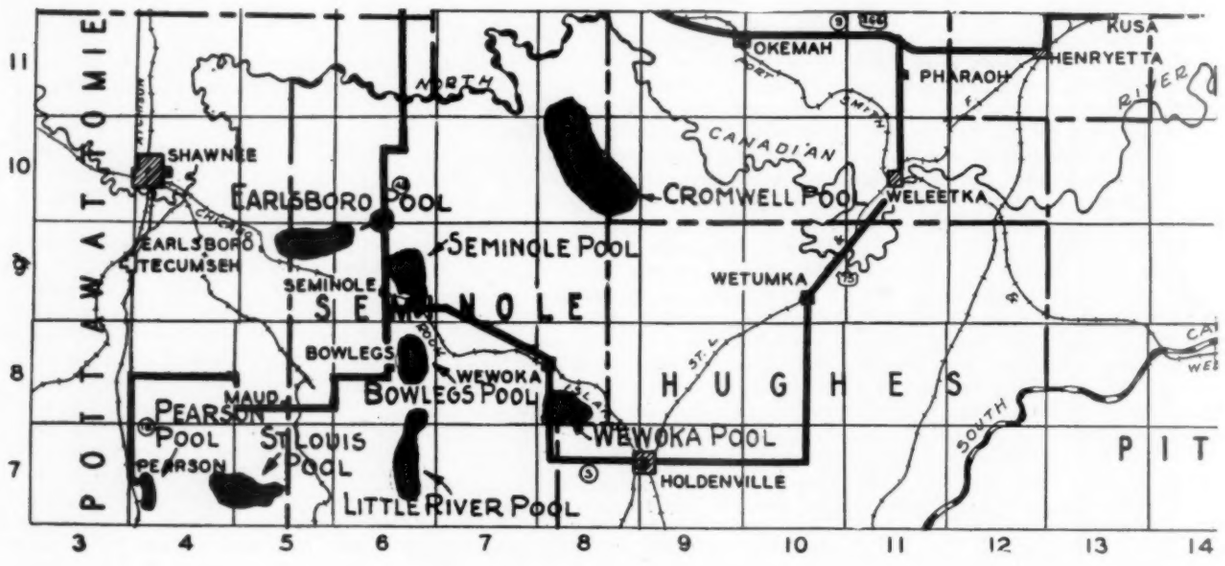
Date of discovery well, July 16, 1926, located in SW NE 26-9-6. There now are eight producing pools in the greater Seminole area designated as the Seminole City pool, Searight pool, Earlsboro pool, Bowlegs pool, Little River pool, St. Louis pool, Maud pool and Mission pool.

Discovery wells in these pools were as follows: Seminole City, July, 1926, in SW NE 26-9-6 with total production to March 1 of 75,040,000 barrels; Searight, October, 1926, in SE NE SE 33-1-6 with total production to March 1 of 18,440,000 barrels; Earlsboro, November, 1926, in NE corner 16-9-5 with total production to March 1 of 74,750,000 barrels; Bowlegs, December, 1926, in SW corner 13-8-6 with total production to March 1 of 63,650,000 barrels; Little River, July, 1927, in NE corner 1-7-6 with total production to March 1 of 35,240,000 barrels; St. Louis, April, 1928, in NE NW 19-7-5 with total production to March 1 of 26,970,000 barrels; Maud, December, 1927, in NE NW 14-8-5 with total production to March 1 of 2,600,000 barrels and Mission in November, 1927, in SE NE 7-8-6 with total production to March 1 of 420,000 barrels.

There have been approximately 2207 wells drilled in the Seminole field up to April 1, with 1823 wells producing as of April 12th. Production today prorated among the various producing companies is approximately 364,122 barrels daily.

There have been 384 wells drilled dry or were abandoned in the Seminole field since its discovery and the total initial production of the field to April 1 was approximately 2,702,243 barrels or an average per well of approximately 1111 barrels.

The total pipe line capacity of the seminole field is 515,000 barrels daily and total capacity of tank car loading racks built about 60,000 barrels daily.



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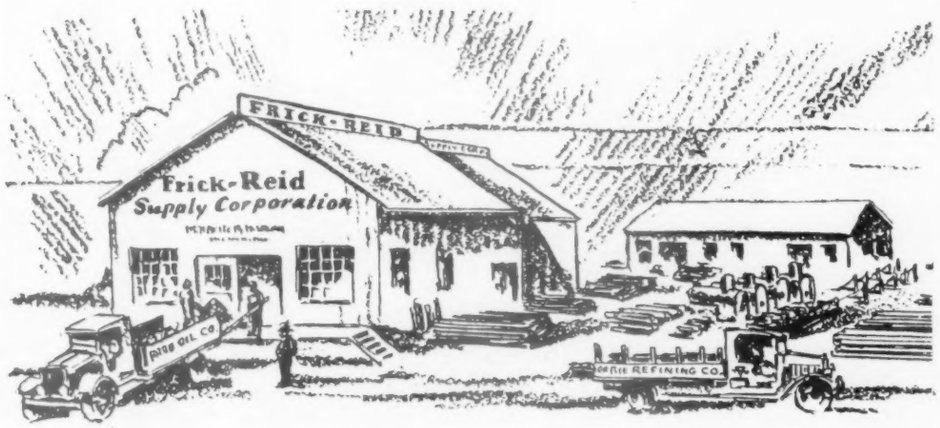

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UNITED STATES FIELD STATISTICS

Following are the completions, showing oil wells, gas wells, failures and initial production of crude oil by states for the month of March, as compiled by THE OIL WEEKLY:

State—	Completions	Producers	Gas wells	Failures	Initial Prod.
Arkansas	27	10	.	7	3,275
California	87	84	.	3	110,485
Illinois	8	3	.	5	14
Indiana	13	3	5	5	25
Kansas	82	29	4	49	10,705
Kentucky	89	58	5	26	2,209
Louisiana	55	14	18	23	5,895
Michigan	25	11	3	11	3,675
New York	5	5	.	.	13
Ohio	144	45	54	45	959
Oklahoma	399	221	33	145	123,671
Pennsylvania	165	137	8	20	880
Texas	514	276	32	206	206,505
West Virginia	64	15	45	4	113
Total	1,677	911	207	549	468,424

PAST TWELVE MONTHS

The record for the past twelve months is an interesting study for comparative purposes, the following table giving the field statistics for all States in the Union:

Month—	Completions	Pro-.ducers	Gas Wells	Failures	Initial Prod.
March, 1928	1,693	884	283	526	555,613
April	1,486	772	216	498	397,825
May	1,495	770	186	539	413,378
June	1,545	896	136	513	457,662
July	1,534	882	189	463	522,969
August	1,730	974	217	539	969,742
September	1,809	1,050	223	536	976,494
October	1,729	979	237	513	566,766
November	2,082	1,178	306	598	438,228
December	1,742	981	250	511	429,869
January 1929	2,068	1,221	262	582	746,564
February,	1,434	830	150	442	236,071
March	1,677	911	207	549	468,424
Total, 1928	19,424	10,735	2,619	6,070	6,461,015
Total, 1927	21,801	13,045	2,554	6,202	4,487,583

Note—Rocky Mountain data omitted.

covery of Oklahoma during March, which development was perhaps the outstanding feature.

The two potential gauges of the Greater Seminole field taken during the month showed a drop of approximately 20,000 barrels daily from the previous gauge taken in February. Indications are that the decline in this field's potential should continue. During the month the Mission and Maud fields were practically defined, and showed a large slump in production. These two areas had previously been rated the best prospects for future initial production. The north extension to the St. Louis field was also further limited by failures.

The outstanding wildcat completion was the Magnolia Petroleum Company's Latimer 1, Section 17-7-4, northwest of the St. Louis field, which produced 2000 barrels from the Simpson sand. A number of tests are starting in this vicinity and their outcome will be of great importance in telling the size of the new pool. Sinclair Oil & Gas Company's Thompson 1, Section 18-9-7, east of the old Seminole City field, did around 1000 barrels from the Wilcox sand and Hunton lime.

The Oklahoma City field was quite interesting during the month, having a run of bad luck. The discovery well, Indian Territory Illuminating Oil Company and Foster Petroleum Company's Foster 1, in Section 24-11-3w, showed a loss of gas pressure and consequently a big drop in production. It fell as low as 2000 barrels but after experimenting with gas lift it increased its production to above 4000 barrels. The remainder of the month it showed a loss in production and an increase in its water recovery. Commercial production has been expected from the Tonkawa and Layton sands, above the producing horizon of the discovery well, and in which formations the discovery test showed heavily, but this belief was practically dispelled by the encountering of salt water in all of the tests that reached the horizons.

Oklahoma showed a big increase in activity due to the completion of a large number of wells in the Greater Seminole field. A total of 399 wells were completed of which 180 were in the Seminole district of Pottawatomie and Seminole Counties. The previous month Oklahoma had but 241 completions. The large number of completions were made up of 221 producers, 33 gas wells, and 145 failures. The initial production of the producers totaled 123,671 barrels against 97,827 barrels for February. The big increase was the result of completions at Mission and Maud, together with other areas of the Seminole district. It is probable that the remainder of the year will fail to see as great an activity at Seminole.

Kansas

The Valley Center field of Sedgwick County featured Kansas work during March. This area received its first big crop of completions with the result that it was defined to the north by several failures. The new producers boosted the output of the field to around 15,000 barrels daily.

The state more than doubled its number of completions, having 82 against 36 in February. Of the 82 completions, 29 were oil wells, four gas wells and 49 failures. Initial production was 10,705 barrels, which is high for the state this year. The Valley Center field was responsible for 7210 barrels of this new recovery.

The big wildcat play of the state continues as shows by the large number of completions in wildcat counties, where most of the failures were completed.

West Texas

Operators in the flush oil areas of the West Texas district took voluntary steps during March to further restrict their daily output as a cooperative move to balance production and consumption of crude oil, and at the close of the month allowable production of three separate areas was reduced 45,000 barrels daily. Winkler County operators made the greatest sacrifice, having lowered their production from 175,000 to 150,000 barrels daily, while those in the prorated area of the Howard-Glasscock County field took the initiative by reducing their output from a maximum allowance of 45,000 to 37,500 barrels daily. The Yates field operators escaped having to apply more back pressure to their completed wells, but contributed 12,500 barrels of their allowable production to the nation-wide conservation movement by passing up their authorized production of 100,000 barrels daily. The latter figure was authorized last January when pipe line transportation facilities, and even though such an outlet can now be had, the field's maximum production will be held at 87,500 barrels daily.

While the above reductions in crude production were being fostered in the West Texas district, the volume of new production slumped to a low level because of continued reduction of field work in Winkler, Pecos and Howard-Glasscock Counties. However, wildcat activity remained steady throughout the district, with dry hole completions ranging from four to six each week.

The largest wildcat strike made in the Central West Texas light oil district during March came through the efforts of the Roeser-Pendleton, Inc., and Marland Production Company's Cook 2-A, (Section 88), which gave a wide extension to the Cook ranch pool Shackleford County with an initial flow of 12 million cubic feet of gas and 275 barrels of oil daily at 1400-13 feet. Activity in Brown and Coleman Counties yielded a high percentage of dry holes among the completions because of the bulk of the field work on wildcat locations.

Shallow oil strikes in Archer and north Young Counties were plentiful during March, with the former county taking the lead. The Underwood Drilling Company et al's J. J. Perkins 1 opened a new pool to the southeast of the Tad Wilson pool with an initial production of 35 barrels at 1621½-23 feet; Humble Oil & Refining Company and Fain-McGaha Oil Corporation's Logan 1-A developed a small pumper from sand at 1121-37 feet west of Anarene, while Barkley-Meadows et al's

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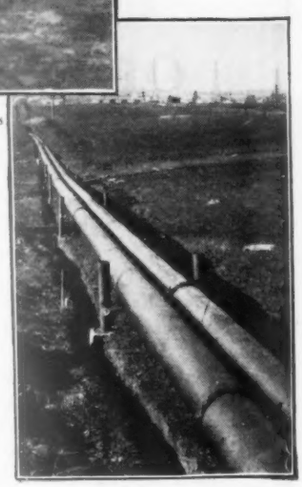

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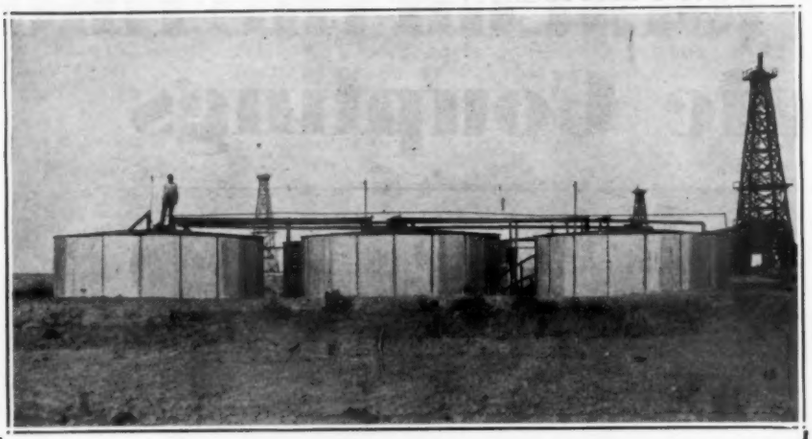

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L. F. Wilson 1, located south of the Waite Phillips pool, swabbed 150 barrels of oil and 20 barrels of water at 1368-70½ feet. Petroleum Producers Company's A. M. Kunkle uncovered a new pool to the west of the Jeske pool with a 40-barrel pumper at 1183-84½ feet. Moran Drilling Company and Independent Oil & Gas Company's J. M. Bloodworth 1 found 33 gravity oil amounting to 60 barrels daily at 1213-15½ feet in establishing a new pool. Prairie Oil & Gas Company's J. T. Richardson 1, Block 12, Thos. McCoy Survey, made a 11-barrel pumper from a semi-wildcat location from sand at 1180-88 feet. The Texas Company's G. P. Stewart 1-B, Section 35, opened a new shallow pool for northern Young County, with an initial production of 30 barrels at 737-42 feet.

The above strikes had a stimulating effect on field work on nearby leases before the end of March, and likewise served to encourage more wildcat activity, since crude purchasing agencies are campaigning for an opportunity to connect their lines with any new strikes. Cooke County came through with an unusually large volume of new production during March because of successful completions on the south end of the Bulcher, or Hoosier field, where The Texas Company, Shell Petroleum Corporation and the Kewanee Oil & Gas Company scored a number of new wells swabbing from 200 to 1000 barrels initial. Field work in Wichita and Wilbarger Counties subsided somewhat during March, with a water shortage interfering with development in the latter county.

A revival of field work in the Gray County section of the Texas Panhandle district was getting underway toward the close of March after a series of unusually large wells from the lime and granite wash horizons near Pampa and Lefors. The bulk of this oil ranges from 41 to 44 gravity, with an abbreviated gravity scale price in effect, and is very popular with all crude buyers, while independent purchasers have a standing offer of 10 cents per barrel bonus. Included in the batch of big wells added to Gray County, was the Operators Oil Company's W. Jackson 3, which is credited with having flowed 7500 barrels of 42 gravity oil and lots of gas during second 24-hour gauge from regular pay at 2840-65 feet, such being the largest producer scored in the district for nearly two years.

Wheeler County remained active on drilling reports, due to the development of natural gas production, and recent successful completions in Carson and Hutchinson Counties aided in boosting field work during March.

California

Conservation, as outlined by the Regional Committee of the American Petroleum Institute, claimed the lion's share of attention in California during March. Machinery was set in motion to bring production down to the 1928 average, by reducing the present total by about 142,000 barrels. All fields are to be affected by the plan and developments at the end of the month tended to confirm the belief

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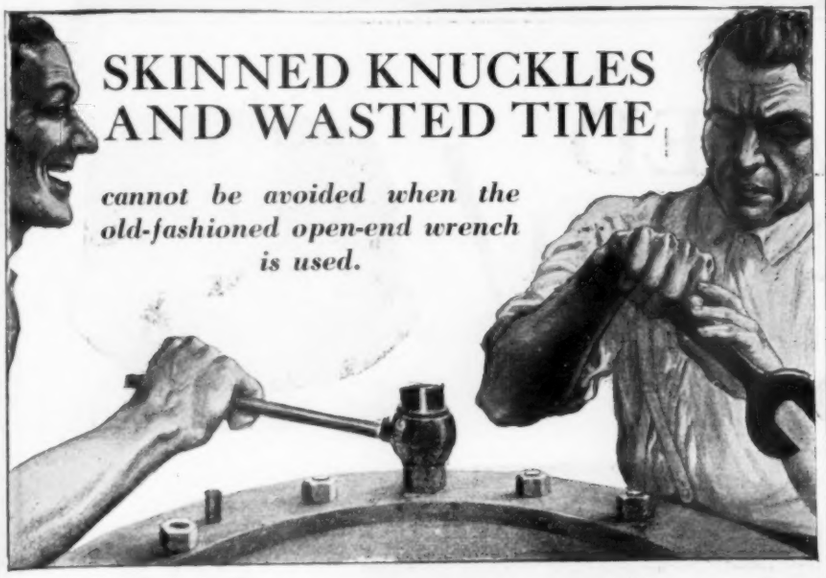

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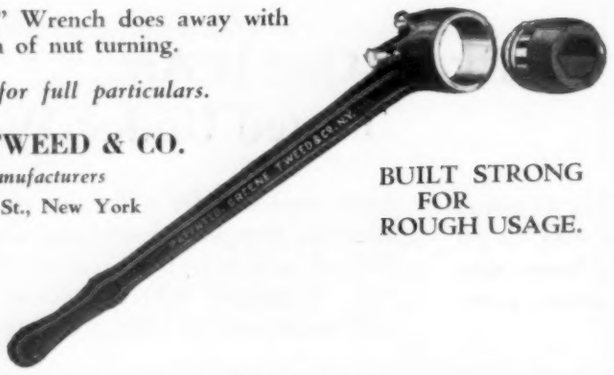

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that production would be reduced soon after the middle of April to conform roughly to the original plan. California operators mean business and production will be reduced materially, even if less than original plans specified.

Failure of zones below the Buckbee in the Santa Fe Springs field caused production to fall steadily and indicated that another peak will not be established, regardless of how intensive the O'Connell and Clarke zones are developed. The wells that failed were chiefly located on edge leases, however, and it is conceded that production will climb again when the inside tracts are actually drilled.

High temperatures in the O'Connell and especially the Clarke zones caused much grief all over the field. Tests showed a temperature of 210 degrees in one well. Interest centered around the inability to secure a water shutoff in the Clarke zone, after a dozen attempts. Field experts and chemists gave a large part of their time, but one failure after another indicated that the cementing problem had not been solved.

Wells in the Buckbee zone declined steadily and field production dropped about 30,000 barrels during the month. The average initial production of the new wells was smaller than during previous months. Many small Buckbee wells were killed in the hope that something better would develop in the O'Connell.

An 8000-barrel well was completed in the O'Connell zone during the month, but the formation did not have a chance to show its real worth in many producers. Wells now producing satisfactorily in the Buckbee zone are expected to perform in the same manner in the O'Connell zone, but there is not yet sufficient reasons to drill them deeper.

Long Beach proved a mild sensation, showing a good gain during the month. This greatest of all California fields remains a critical factor and will have to be reckoned with for many months to come. The settled condition of the older wells makes it possible for a few large completions to make themselves felt. Several 2000-barrel producers were completed.

Two completions in the Elwood field ran production up to 32,000 barrels from eight wells, but the curtailment program is expected to remedy the situation by reducing the total allowable crude to 20,000 barrels. The price of oil was reduced in the field during the month, the only reduction posted in California.

Lawndale proved the greatest disappointment in years, only one small well having been completed out of more than 50 drilling. A dozen wells passed the level at which the discovery well was completed, but only thin streaks of oil sand were in evidence. It now seems certain that more than 90 per cent. of the drilling wells are completely off structure. If such proves to be the case, the loss will run into many millions of dollars.

The Carpenteria district, a strictly wildcat area, proved disappointing, a well which had shown a very high gas pressure and which was tested under the greatest difficulty showing no oil and only a small flow of gas.

Summary of Field Operations for March, 1929

RECAPITULATION-ENTIRE UNITED STATES

Section—	Completions	Producers	Gas Wells	Failures	Initial Prod. Oil	Initial Prod. Gas*	Monthly Prod.
Oklahoma	399	221	33	145	123,671	194	20,593,450
Kansas	82	29	4	49	10,705	6	2,955,900
Texas Outside Gulf	447	238	28	181	183,161	384½	20,519,200
Gulf Coast	88	48	4	36	29,104	55	4,548,450
North Louisiana	34	4	18	12	135	191¾	1,109,800
Arkansas	27	10	..	7	3,275	...	2,301,600
Eastern	513	277	120	116	7,888	139¾	3,374,700
Rocky Mountain	..	..	..	..	...	...	2,185,250
California	87	84	..	3	110,485	....	24,257,700
U. S. Total	1,677	911	207	549	468,424	971	81,846,050
February	1,434	830	150	442	236,071	2,114¾	75,170,200

*Thousand cubic feet.

EASTERN STATES

NEW YORK

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod. Oil	Initial Prod. Gas
Allegany	5	5	..	..	13	..
Total	5	5	..	..	13	..

PENNSYLVANIA

Beaver	3	3	..	..	14	....
Bradford	119	103	..	16	359	....
Butler	13	10	1	2	444	1
Center-Middle	6	6	..	..	14	....
Clarion	8	6	1	1	28	1
Greene	3	..	3	..	...	4½
Venango	12	8	3	1	18	¾
Washington	1	1	..	..	3	....
Total	165	137	8	20	880	7¼

CENTRAL OHIO

Ashland	13	3	2	8	18	3
Athens	15	1	9	5	2	7
Belmont	1	..	1	..	...	2
Berry	4	4	..	..	30	2
Coshocton	2	2	..	..	90	¼
Cuyahoga	1	..	1	..	...	¼
Guernsey	2	1	..	1	10	....
Hocking	3	2	..	1	20	....
Holmes	1	..	..	1	...	....
Jackson	3	..	3	..	...	1½
Knox	5	1	4	..	100	6½
Lawrence	2	..	1	1	...	¼
Licking	9	5	1	3	49	¼
Lorain	2	..	1	1	...	2¼
Medina	1	..	1	..	...	1½
Meigs	9	3	1	5	11	1¼
Muskingum	3	2	..	1	320	....
Perry	7	3	2	2	70	1¼
Richland	1	..	1	..	...	¼
Summitt	8	..	7	1	...	9¼
Vinton	3	1	..	2	5	....
Wayne	4	..	4	..	...	5¼
Total	99	28	39	32	725	44

SOUTHEASTERN OHIO

Jefferson	1	1	..	..	20	....
Monroe	8	2	2	4	45	2
Morgan	9	..	8	1	...	4
Noble	9	6	..	3	25	....
Washington	12	4	5	3	60	1¾
Total	39	13	15	11	150	7¾

NORTHWESTERN OHIO

Allen	2	2	..	..	55	....
Lucas	1	..	..	1	...	....
Mercer	1	1	..	..	5	....
Seneca	1	..	..	1	...	....
Wood	1	1	..	..	24	....
Total	6	4	..	2	84	....
Total Ohio	144	45	54	45	959	51¾

WEST VIRGINIA

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod. Oil	Initial Prod. Gas
Boone	10	..	10	..	...	7¾
Calhoun	8	1	7	..	5	7
Gilmer	8	2	5	1	25	7¼
Hancock	1	1	..	..	5	....
Jackson	1	1	..	..	10	....
Kanawha	1	..	1	..	...	½
Lincoln	9	..	9	..	...	4¼
Marshall	2	..	2	..	8	....
Mingo	2	1	1	..	5	5½
Monongalia	1	1	..	..	25	....
Pleasants	1	..	..	1	...	....
Ritchie	7	4	2	1	19	1½
Roane	5	..	5	..	...	5¾
Tyler	2	2	..	..	6	....
Wetzel	4	..	3	1	...	5
Wirt	2	2	..	..	5	....
Total	64	15	45	4	113	44½

KENTUCKY

Allen	7	..	..	7	...	....
Daviess	27	19	1	7	625	2
Estill	1	..	..	1	...	....
Hancock	1	1	..	..	15	....
Henderson	5	5	..	..	72	....
Hopkins	1	..	1	..	...	2
Magoffin	4	4	..	..	45	....
McLean	1	..	..	1	...	....
Menifee	1	1	..	..	6	....
Ohio	33	24	1	8	1,385	1
Simpson	1	..	..	1	...	....
Trigg	1	..	1	..	...	1
Warren	1	1	..	..	1	....
Wayne	2	1	..	1	5	....
Webster	3	2	1	..	55	3½
Total	89	58	5	26	2,209	9½

INDIANA

Gibson	4	1	1	2	10	5
Hancock	1	..	1	..	...	1
Henry	1	..	1	..	...	½
Marion	1	..	1	..	...	¾
Pike	2	..	..	2	...	....
Spencer	3	2	..	1	15	....
Sullivan	1	..	1	..	...	2
Total	13	3	5	5	25	9¼

ILLINOIS

Clark	2	2	..	..	4	....
Lawrence	1	..	..	1	...	....
Wabash	5	1	..	4	10	....
Total	8	3	..	5	14	....

MICHIGAN

Kent	1	..	..	1	...	....
Midland	1	1	..	..	605	....
Muskegon	22	10	3	9	3,070	17½
Ottawa	1	..	..	1	...	....
Total	25	11	3	11	3,675	17½
Total Eastern Fields	513	277	120	116	7,888	139¾
Total Production Eastern Fields					3,374,700	

CALIFORNIA

Field—	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas
Athens-Rosecrans	2	2	..	..	875	....
Belridge	1	1	..	..	35	....
Cat Canyon	1	1	..	..	200	....
Fruitvale	2	2	..	..	2,700	....
Huntington Beach	1	1	..	..	100	....
Inglewood	2	2	..	..	325	....
Kern Front	4	4	..	..	900	....
Long Beach	20	20	..	..	16,975	....
Midway	5	5	..	..	2,175	....
Montebello	1	1	..	..	100	....
Potrero	1	1	..	..	200	....
Santa Fe Springs	37	37	..	..	77,200	....
Seal Beach	4	4	..	..	6,600	....
Ventura	3	3	..	..	2,100	....
W. Coyote	1	..	..	1	...	....
Wildcats	2	..	..	2	...	....
Total	87	84	..	3	110,485	....

CALIFORNIA PRODUCTION SUMMARY

Santa Fe Springs	5,243,500
Long Beach	5,718,000
Huntington Beach	1,449,500
Torrance	464,500
Dominguez	324,500
Rosecrans	209,000
Inglewood	814,000
Midway-Sunset	2,241,000
Ventura	1,723,500
Seal Beach	1,133,500
Elwood-Goleta	834,000
Kettleman Hills	107,600
Others	3,995,100
Total	24,257,700

MOUNTAIN STATES PRODUCTION SUMMARY

WYOMING

Salt Creek	1,004,700
Grass Creek	69,800
Elk Basin	24,250
Big Muddy	71,200
Lost Soldier	105,300
Rock Creek	71,850
Lance Creek	8,550
Oregon Basin	86,900
La Barge	59,050
Others	93,600
Total	1,595,200

MONTANA

Cat Creek	42,500
Sunburst	166,250
Pondera	85,200
Others	1,500
Total	295,450

COLORADO

Moffatts	33,950
Fort Collins	78,400
Florence	36,950
Others	65,550
Total	214,850

NEW MEXICO

Table Mesa	2,100
Artesia	29,450
Hog Back	17,500
Rattlesnake	23,450
Others	7,250
Total	79,750
Total Rocky Mountain States	2,185,250

ARKANSAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas
Nevada	1	..	..	1	....	.. ..
Ouachita	4	3	..	1	395	.. ..
Union	18	5	..	3	2525	.. ..
Wildcats	4	2	..	2	355	.. ..
Total	27	10	..	7	3275	.. ..

ARKANSAS PRODUCTION SUMMARY

El Dorado	141,150
Champagnolle	295,100
Smackover Light	196,950
Smackover Heavy	1,548,950
Stephens	31,050
Nevada	40,050
Lisbon	45,250
Others	3,100
Total	2,301,600

OKLAHOMA

Field—	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas
Beckham	4	..	4	..	...	60
Blaine	1	..	..	1	...	....
Carter	9	4	2	3	455	3
Coal	1	..	..	1	...	....
Comanche	2	..	..	2	...	....
Cotton	2	..	..	2	...	....
Creek	38	16	4	18	2,115	5
Garvin	2	1	..	1	40	....
Grady	3	..	3	..	...	22
Grant	2	..	..	2	...	....
Harper	1	..	..	1	...	....
Hughes	5	1	1	3	435	2
Jefferson	1	1	..	..	80	....
Kay	9	2	3	4	500	9
Kiowa	10	..	..	10	...	....
LeFlore	1	..	1	..	...	1
Lincoln	1	..	..	1	...	....
Logan	2	..	..	2	...	....
Marshall	2	..	..	2	...	....
McIntosh	1	..	..	1	...	....
McClain	1	..	..	1	...	....
Muskogee	19	4	2	13	168	5
Okfuskee	13	8	..	5	860	....
Oklahoma	1	..	..	1	...	....
Okmulgee	12	5	1	6	115	1
Osage	22	13	..	9	1,514	....
Pawnee	10	2	2	6	30	5
Pittsburg	1	..	1	..	...	3
Pontotoc	7	5	..	2	435	....
Pottawatomie	65	55	1	9	32,388	20
Seminole	115	93	4	18	83,861	50
Stephens	24	10	2	12	625	1
Tillman	1	..	..	1	...	....
Tulsa	3	..	..	3	...	....
Wagoner	7	1	2	4	50	7
Woods	1	..	..	1	...	....
Total	399	221	33	145	123,671	194

OKLAHOMA PRODUCTION SUMMARY

Braman	103,100
Blackwell	120,000
Hubbard	61,550
Thomas	27,800
Tonkawa	321,450
Garber	168,400
Burbank	690,450
Osage	792,250
Cushing	642,300
Yale	226,400
Davenport	47,500
Bristow	596,400
North Okmulgee	450,550
Lyons-Deaner	259,550
Cromwell	239,250
Papoose	107,400
Wewoka	153,850
Seminole	1,012,600
Bowlegs	1,068,200
Searight	304,250
Little River	2,415,350
Earlsboro	1,665,200
Duncan	207,700
Graham	136,000
Fox	45,400
Healdton	432,900
Hewitt	257,900
Scholem-Alechem	396,950
Pearson	53,350
Oklahoma City	105,700
St. Louis	3,083,000
Allen	810,900
Maud	981,100
Logan County	357,150
Others	2,251,600
Total	20,593,450

KANSAS PRODUCTION SUMMARY

Greenwood	648,300
Florence	29,900
Peabody	91,500
El Dorado	372,000
Augusta-Fox Bush	87,650
Rainbow Bend	31,000
Russell	98,150
Churchill	216,750
Oxford	175,250
Sedgewick	327,500
Others	877,900
Total	2,955,900

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Say you saw it in The OIL WEEKLY

KANSAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas
Butler	7	3	..	4	245	....
Chase	1	..	..	1	...	....
Chautauqua	2	1	..	1	45	....
Coffey	3	..	..	3	...	....
Cowley	15	5	2	8	685	3
Elk	2	1	..	1	100	....
Ellis	5	1	..	4	250	....
Franklin	1	..	..	1	...	....
Greenwood	16	7	1	8	1,400	1
Harvey	2	..	..	2	...	....
Jefferson	1	..	..	1	...	....
Labette	1	..	..	1	...	....
McPherson	2	2	..	..	510	....
Nemaha	1	..	..	1	...	....
Osage	3	..	..	3	...	....
Pottawatomie	1	..	..	1	...	....
Rooks	1	..	..	1	...	....
Russell	2	1	..	1	60	....
Sedgwick	10	7	..	3	7,210	....
Sumner	1	..	1	..	...	2
Wabunsee	2	..	..	2	...	....
Wilson	1	..	..	1	...	....
Woodson	2	1	..	1	200	....
Total	82	29	4	49	10,705	6

NORTH LOUISIANA

Field—	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas	Monthly Prod.
Belleview	..	..	..	..	....	..	20,300
Caddo	4	2	1	1	55	2	358,750
Claiborne	1	..	..	1	....	..	.....
Cotton Valley	..	..	..	..	....	..	92,350
De Soto-Red River	4	1	1	2	5	..	123,200
E. Carroll	1	..	..	1	....	..	.....
Elm Grove	..	..	..	..	....	..	18,250
Haynesville	..	..	..	..	....	..	170,200
Homer	..	..	..	..	....	..	123,900
La Salle	1	1	..	..	75	..	.....
Madison	1	..	..	1	....	..	.....
Morehouse	4	..	4	..	....	98	.....
Ouachita	8	..	8	..	....	28¾	.....
Pleasant Hill	..	..	..	..	....	..	14,000
Richland	2	..	1	1	....	53	.....
Union	1	..	1	..	....	2½	.....
Urania	..	..	..	..	....	..	181,450
Webster	1	..	1	..	....	4	.....
Wildcats	6	..	1	5	....	3½	.....
Others	..	..	..	..	....	..	7,400
Total	34	4	18	12	135	191¾	1,109,800

SOUTH LOUISIANA

Anse La Butte	1	..	..	1	....	..	.....
Bayou Bouillon	1	..	..	1	....	..	11,500
E. Hackberry	1	..	..	1	....	..	166,500
Edgerly	1	1	..	..	300	..	28,050
Evangeline	3	..	..	3	....	..	25,500
Hackberry	4	4	..	..	3260	..	23,850
Lockport	2	1	..	1	360	..	136,550
Sorrento	..	..	..	..	....	..	15,100
Starks Dome	2	..	..	2	....	..	.....
Sulphur	1	..	..	1	....	..	70,500
Sweet Lake	1	1	..	..	330	..	12,950
Vinton	3	3	..	..	1510	..	141,050
Wildcats	1	..	..	1	....	..	.....
Others	..	..	..	..	....	..	15,600
Total	21	10	..	11	5760	..	647,150
Total Louisiana	55	14	18	23	5895	191¾	1,756,950

TEXAS

PANHANDLE

Field—	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas	Monthly Prod.
Carson	6	5	..	1	1365	..	187,200
Gray	12	10	1	1	6690	77	725,800
Hutchinson	6	5	1	..	745	10	808,400
Motley	1	..	..	1	....	..	.....
Wheeler	2	..	2	..	....	80	.....
Others	..	..	..	..	....	..	48,850
Total	27	20	4	3	8,800	167	1,770,250

SOUTHWEST

Aqua Dulce	1	..	1	..	....	50	.....
Cedar Creek	2	2	..	..	820	..	.....
Dale	..	..	..	..	....	..	20,900
Duvall	1	1	..	..	1200	..	.....
Frio	1	..	..	1	....	..	.....
Jim Hogg	2	2	..	..	250	..	.....
Laredo Dist.	..	..	..	..	....	..	373,350
Live Oak	1	..	..	1	....	..	.....
Luling	..	..	..	..	....	..	390,500
Lytton Springs	1	..	..	1	....	..	33,200
Salt Flat	26	24	..	2	13,790	..	1,050,650
Somerset	..	..	..	..	....	..	18,600
Starr	1	..	..	1	....	..	.....
Webb	6	1	4	1	30	110	.....
Zapata	2	1	..	1	100	..	.....
Wildcats	5	..	..	5	....	..	.....
Others	..	..	..	..	....	..	161,850
Total	49	31	5	13	16,190	160	2,049,050

NORTH TEXAS

Archer	45	11	..	34	288	..	527,300
Burkburnett	2	1	..	1	25	..	282,900
Clay	6	1	..	5	35	..	.....
Cooke-Montague	14	10	..	4	2300	..	325,000
Electra	10	6	..	4	190	..	398,950
Haskell	1	..	..	1	....	..	.....
Jack	3	..	1	2	....	2	.....
KMA-Iowa Park	22	19	..	3	615	..	179,150
Knox	1	..	..	1	....	..	.....
Wilbarger	17	14	..	3	1630	..	839,250
Others	..	..	..	..	....	..	15,500
Total	121	62	1	58	5083	2	2,568,050

WEST CENTRAL TEXAS

Brown	29	9	..	20	228	..	273,150
Callahan	9	1	..	8	15	..	114,750
Coleman	16	1	5	10	310	7¼	114,600
Comanche	1	..	1	..	....	¼	.....
Eastland	10	2	1	7	340	1½	207,000
Erath	4	..	3	1	....	6	.....
Jack	..	..	..	..	....	..	50,750
Palo Pinto	1	..	..	1	....	..	12,400
Shackelford	29	18	..	11	2078	12	408,400
Stephens	5	1	2	2	40	3	193,850
Throckmorton	..	..	..	..	....	..	20,200
Young	18	26	..	22	817	..	221,300
Others	..	..	..	..	....	..	21,600
Total	152	58	12	82	3828	30	1,638,000

EAST CENTRAL TEXAS

Boggy Creek	..	..	..	..	....	..	111,500
Corsicana-Powell	..	..	..	..	....	..	260,200
Currie	..	..	..	..	....	..	14,700
Limestone	1	..	..	1	....	..	.....
Mexia	..	..	..	..	....	..	172,650
Nigger Creek	..	..	..	..	....	..	18,600
Richland	..	..	..	..	....	..	12,400
Wortham	..	..	..	..	....	..	37,550
Total	1	..	..	1	....	..	627,600

EAST TEXAS

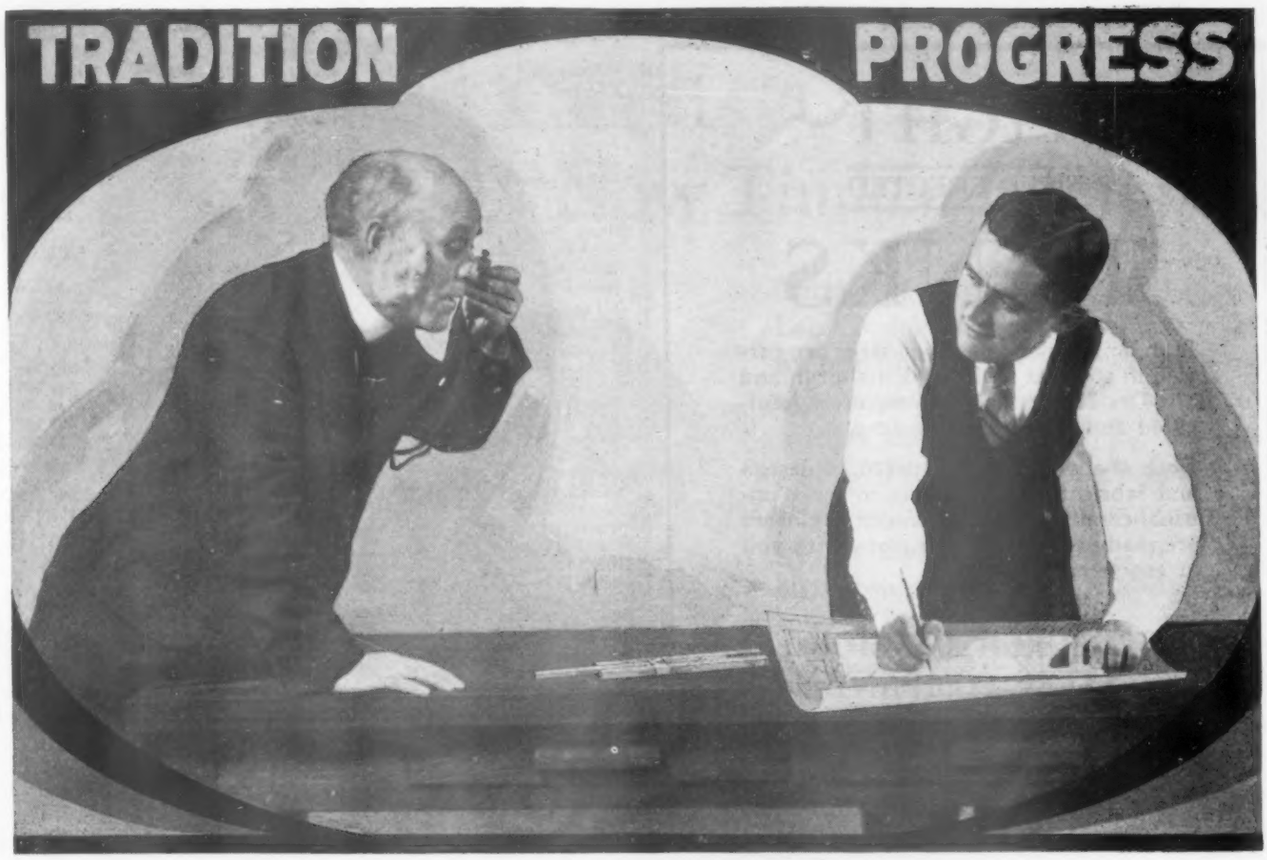
Harrison	2	..	2	..	....	4½	.....
Panola	4	..	3	1	....	17	.....
Wildcats	3	2	1	..	580	4	.....
Total	9	2	6	1	580	25½	.....

(Continued on page 80)

TEXAS RECAPITULATION

Field—	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*	Monthly Prod.
Panhandle	27	20	4	3	8,800	167	1,770,250
Southwest	49	31	5	13	16,190	160	2,049,050
North	121	62	1	58	5,083	2	2,568,050
West Central	152	58	12	82	3,828	30	1,638,000
East Central	1	..	..	1	...	..	627,600
East	9	2	6	1	580	25½	...
West	88	65	..	23	148,680	..	11,866,250
Total Outside Gulf	447	238	28	181	183,161	384½	20,519,200
Gulf	67	38	4	25	23,344	55	3,901,300
Grand Total	514	276	32	206	206,505	439½	24,420,500

*Thousand cubic feet.



"Here, Lad—

we've got to do something to get a better percentage of the work we bid on.

Maybe we'll have to come to cutting prices."

The Lincoln "Stable-Arc" Welder

— welds easier
— makes better welds
— permits greater output

because of the steady uniform arc throughout entire welding range, which is the result of:

Variable voltage design
Laminated magnetic circuit
Separately-excited generator field
Double control of welding heat
All steel construction

No other welder has all these features.

"Fine, Pop—

by eliminating the last two words, you've found the answer.

And when we've *come to,* and felt the pulse of the times, we'll see that most of the ***best*** jobs and the biggest jobs are going to arc welding, *of course.* BUT there's more to it than that:

If we *come to* sufficiently, we'll find that these jobs are going to Lincoln Welder users because they can outspeed machines having lesser qualifications.

I was just reading in a trade paper where a gang of three welders completed 13,900 feet of 8-inch pipe line in one day. (Reprint of this article with job details on request.)

So until we quit bidding against 'Stable Arc' welding and start bidding WITH it, we're simply bucking traffic on a one-way street—and the ticket we'll get won't be a meal ticket."

The Lincoln Electric Co., Dept. No. 33-4, Cleveland, Ohio

W-77

"Stable Arc" LINCOLN WELDER

PITTSBURGH — DES MOINES

TIGHT

FIELD ERECTED

TANKS

Standard tanks of various sizes are carried in stock at both our Pittsburgh and our Des Moines shops, completely fabricated and ready for shipment.

Both shops are also prepared to design and fabricate special tanks to meet unusual conditions. Experienced engineers are ready to discuss your plans with you at any time.

PITTSBURGH-DES MOINES STEEL COMPANY

1299 Praetorian Bldg., Dallas, Texas
87 Neville Island, Pittsburgh, Pa.
989 Tuttle St., Des Moines, Ia.

New York San Francisco Seattle Chicago Atlanta

(Continued from page 78)

Field—	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas	Monthly Prod.
WEST TEXAS							
Crane-Upton	3	3	..	..	540	..	1,545,000
Crockett	..	..	..	..	....	..	68,800
Fisher	1	1	..	..	50	..	.....
Howard-Glasscock	24	24	..	..	9370	..	1,444,450
Jones	8	4	..	4	450	..	189,750
Loving	1	1	..	..	300	..	.....
Mitchell-Scurry	1	1	..	..	90	..	86,600
Pecos	15	11	..	4	76,610	..	2,689,200
Reagan	..	..	..	..	....	..	573,100
Ward	1	1	..	..	75	..	.....
Winkler	21	19	..	2	61,195	..	5,210,350
Wildcats	13	..	..	13	....	..	.....
Others	..	..	..	..	....	..	59,000
Total	88	65	..	23	148,680	..	11,866,250
TEXAS GULF COAST							
Allen Dome	2	..	..	2	....	..	.....
Barbers Hill	2	2	..	..	5300	..	197,700
Batson	4	4	..	..	96	..	44,900
Big Creek	3	2	..	1	4000	..	136,350
Blue Ridge	1	1	..	..	185	..	122,100
Boling	2	..	..	2	....	..	62,200
Clay Creek	4	3	..	1	2060	..	.....
Clemens Dome	1	..	..	1	....	..	.....
Damon Mound	..	..	..	..	....	..	24,350
Goose Creek	2	2	..	..	100	..	202,150
High Island	1	..	..	1	....	..	.....
Hull	4	3	..	1	860	..	310,150
Humble	1	1	..	..	250	..	167,950
Long Point	1	..	..	1	....	..	.....
Lost Lake	1	..	..	1	....	..	.....
No. Dayton	1	..	..	1	....	..	.....
Orange	3	2	..	1	908	..	94,950
Pierce Jct.	6	4	1	1	2740	..	384,050
Raccoon Bend	3	1	1	1	300	5	66,050
Refugio	2	..	2	..	....	50	.....
Saratoga	..	..	..	..	....	..	29,400
Sour Lake	..	..	..	..	....	..	87,450
So. Liberty	10	8	..	2	2165	..	192,450
Spindle Top	3	3	..	..	2680	..	1,032,300
Stratton Ridge	1	..	..	1	....	..	.....
Sugar Land	1	1	..	..	1500	..	285,950
West Columbia	1	1	..	..	200	..	232,400
Washington Co.	..	..	..	..	....	..	60,150
Wildcats	7	..	..	7	....	..	.....
Others	..	..	..	..	....	..	177,300
Total	67	38	4	25	23,344	55	3,901,300

Beebe Bros
ALL STEEL HAND HOIST
TRADE MARK
SEATTLE, U.S.A.

POWER *in the* PINCHES

The oil business has many emergencies where a Beebe Hand Hoist saves the situation through its unusual power and speed combination. This ability to "pinch hit" long before other set ups can be gotten into action has already made the Beebe Hand Hoist standard equipment in many fields.

Weight 110 lbs.

Capacity FIVE TON STRAIGHT LINE

Size 16x17x13" High

Two Speeds 4 to 1 24 to 1

POSITIVE INTERNAL BRAKE

Construction Eight Pieces Electrical Steel Without Keys or Setscrews

5 TONS Capacity

PRICE $80

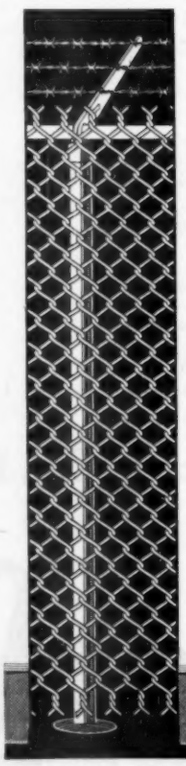
Steel Tail Hold Yoke $4 Extra. Truck Attachment Plate, $10 Extra

Sold by

THE NATIONAL SUPPLY COMPANIES

Cyclone's Latest Achievement—

H-COLUMN POSTS



Stronger than any other type of Fence post of equal size!

No less than revolutionary is this newest achievement of Cyclone engineers—the H-Column Post. Designed like the H-Columns of a skyscraper, it gives increased strength and endurance to Cyclone Fence—a degree of sturdiness to and durability never before offered by any fence. And the price remains the same.

H-Column Posts are made of special analysis copper-bearing steel, hot-dipped by our famous Galv-After process. Set in new frost-proof, reinforced concrete base.

Our trained men erect Cyclone Fence. Service available everywhere. Write nearest offices.

TEXAS CYCLONE FENCE COMPANY
Works and Offices: Fort Worth
Direct Factory Branches and Warehouses: Houston, Dallas, Tulsa
Also Sales Offices: New Orleans, Shreveport

Cyclone Fence
REG. U.S. PAT. OFF.

All chain link fence is not Cyclone. This nameplate identifies the genuine Cyclone Fence.

(C) C. F. Co. 1929.

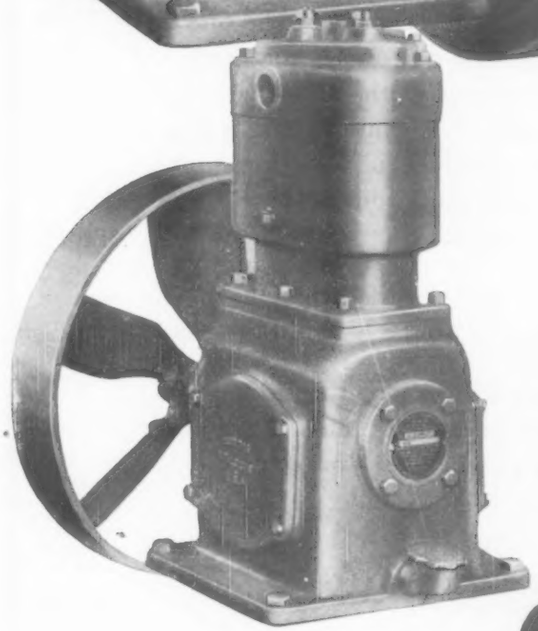
Curtis Crankshafts Now *Timken-Equipped*

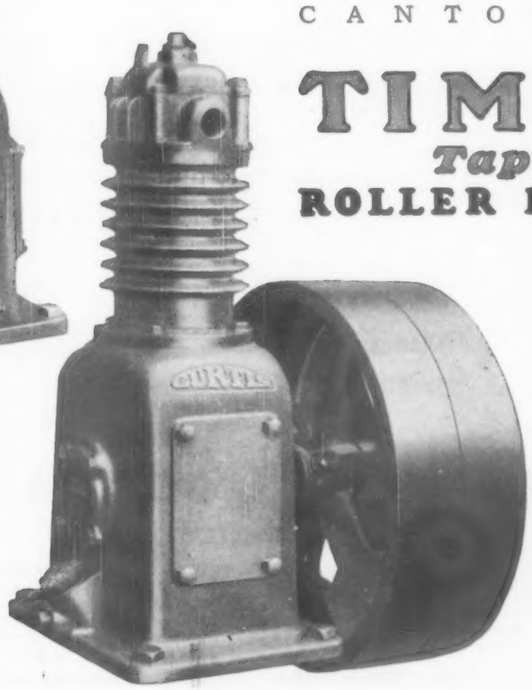
Curtis Pneumatic Machinery Co., St. Louis, celebrates its 75th anniversary by bringing out 11 new models. Wide experience permits unerring judgment in sizes and types. From ¼ to 5 h.p. and from 150 to 200 lbs. pressure gives selection in capacity but only one set of standards throughout—in crankshaft bearings—*it is Timkens!*

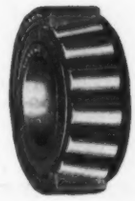
The best engineering thought invariably turns to Timken Bearings. For Timken friction elimination saves power and lubricant. Timken endurance and freedom from attention permit the most continuous low-cost operation ever known. The best assurance of economy wherever wheels and shafts turn is Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken electric steel.

THE TIMKEN ROLLER BEARING CO.
C A N T O N , O H I O

TIMKEN
Tapered
ROLLER BEARINGS

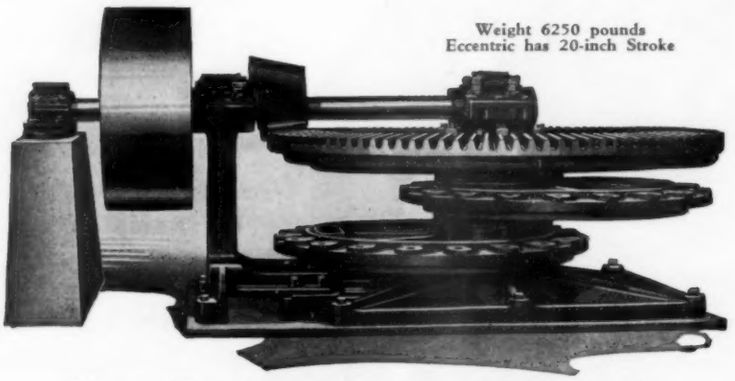






A Heavy Under-Pull Power

With Two Eccentrics



Weight 6250 pounds
Eccentric has 20-inch Stroke

Now Equipped with Automatic Pump Lubrication

PATTIN PRODUCTS

- Gas Engines
- Air and Gas Compressors
- Vacuum Pumps
- Shackle Irons
- Pumping Powers
- Oil Country Boilers
- Steel Storage Tanks
- Water Pumps
- Torpedo Reels and Clamps
- High Pressure Tanks
- Howe Casing Heads

THE PATTIN BROS. CO.

THE power illustrated above is conceded to be one of the most powerfully geared powers on the market. A very heavy under-pull power with two eccentrics, each having a 20-in. stroke. The pinion shaft is supported on three bearings, which is a very important point, because tight belts soon pull ordinary powers out of line, resulting in broken gears.

This power is geared eight to one, the pinion is steel, and we have never had one fail on the heaviest of loads.

We recommend this power in place of the usual band wheel powers, and their expensive installation. If desired, we can furnish this power with one eccentric.

Write for prices, or inquire of any of our representatives

The Pattin Brothers Company

MARIETTA, OHIO

Tulsa, Okla.	Coleman, Texas	Wichita Falls, Texas	Putnam, Texas	Bradford, Pa.
A. S. Dunnington	J. Barnes	J. W. Noland	Putnam Supply Co.	The Blaisdell Machinery Co.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Empire, Brandenberger "A" 5, sw se ne, 22-27-5e	176	2766
Allison & Fitzwilliams, McGinnis 6, se ne ne, 9-27-6e	50	3153
Empire, Koogler 76, nw se nw, 20-26-5e	225	2571
COWLEY COUNTY—		
Shawver and Marland, Stout 1, se nw, 10-31-3e	*	3131
ELK COUNTY—		
McCulloch Oil Co., Dunlap 1, c nw ne, 13-29-9e	*	2268
Waggoner & Spencer, Stewart 1, nw sw, 19-28-12e	*	2010
GREENWOOD COUNTY—		
Independent, Sheppard 10, sw se, 2-22-10e	255	2135
Simmons & Rhodes, Luthi 4, nw se sw, 29-22-13e	30	1696
Shell et al, Sheets 4, se nw ne, 23-22-11e	80	1888
Gordon & Stats, Klasser 1, ne se, 5-22-11e	*	2149
HARVEY COUNTY—		
Shell, Houty 1, (owdd) ne sw se, 11-23-2w	¶8	2972
OSAGE COUNTY—		
Papoose Oil Co., Evans 1, sw nw nw, 34-18-14e	*	1781

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CADDO COUNTY—		
Magnolia, McKenna 1, ne nw sw, 11-5n-9w	35	2613
CARTER COUNTY—		
Magnolia, Putman 1, nw ne sw, 30-1s-3w	40	2808
Atlantic Oil Prod. Co., Eason 3, se 19-1s-3w	35	3117
Humble, Dixon 7, sw nw, 30-1s-3w	*	3508
Texas, Eaves 2, 24-1s-3w	*	2905
CREEK COUNTY—		
Lynch et al, Brown 1, ne sw nw 4-18-12e	25	1742
Silurian, Starr 25, se ne ne, 17-18-7e	5	2523
Tidal Osage Oil Co., Lee 2, ne nw ne, 13-18-11e	*	2325
C. G. Tibbens, Conneseny 33, sw ne, 30-15-9e	*	3930
Transcontinental's Hutton 1, cnl sw, 30-16-10e	*	2824
HUGHES COUNTY—		
Champlin, Long 1, sw, 33-9-9e	¶9	3670
Ramsey, Whitney 5, sw ne sw, 19-5-8e	140	2645
Homaokla Oil Co., Berry 7, sw ne se 19-5-8e	265	2784
Howard Pet. Co., Harjo 1, nw se, 25-8-10e	*	4692
KAY COUNTY—		
Texas, Cassity 1, nw ne sw, 29-25-1w	15	4345
Marland, North Lease No. 2, 2, nw sw 6-26-1w	*	3672
Wilson et al, Gilbert 2, nw ne sw nw, 24-27-1e	*	800
KIOWA COUNTY—		
Muth Bros., Terry 1, c sw se, 6-6n-18w	*	1208
LOGAN COUNTY—		
Sinclair & Healdton O&G Co., Gragg 1, sw 15-18-4w	*	4109
Shell, McCully 5, ne sw, 30-19-4w	*	6153
MUSKOGEE COUNTY—		
M. S. Massellem, Jackson 1, cel w½ sw se, 10-14-17e	*	1302
Mack Drlg. Co., Friday 2, cel se ne, 7-15-15e	*	1261
OKMULGEE COUNTY—		
J. L. Selby, Conner 11, nw, 6-14-15e	10	675
Trout Drlg. Co., Bruner 1, nw sw se, 20-16-14e	*	2518
J. E. Wallace, Colbert 12, cnl nw se, 14-14-14e	12	1764
OSAGE COUNTY—		
Devonian, No. 1, nw ne, 31-21-10e	15	1956
Mid Kansas O&G Co., No. 6, ne se se sw, 36-22-8e	80	463

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Prod. This Week	Initial Prod. Last Week
Arkansas	3	7	2	1	1	..	..	6	50	93
California	17	24	13	24	..	..	4	..	7,270	28,340
Illinois	4	7	3	4	..	..	1	3	140	20
Indiana	..	4	..	2	..	1	..	1	...	45
Kansas	12	15	6	9	1	1	5	5	815	1,115
Kentucky	22	33	12	21	1	5	9	7	497	736
Louisiana	29	8	9	1	9	6	11	1	1,025	65
Michigan	8	9	5	8	..	..	3	1	2,170	6,300
New York	9	..	8	..	..	..	1	..	42	...
Ohio	30	38	8	10	7	19	15	9	160	251
Oklahoma	74	45	43	21	3	2	28	22	23,990	9,211
Pennsylvania	75	..	64	..	7	..	4	..	293	...
Texas	122	119	57	62	7	13	58	44	10,365	33,217
West Virginia	16	20	5	5	6	15	5	..	39	33
Total	421	329	235	168	42	62	144	99	46,856	79,426
Increase this week	92	..	67	..	..	..	45	..	...	...
Decrease this week	..	..	..	..	20	..	..	..	32,570	...

Company, Well and Location	Initial Production Bbls.	Depth
I. T. I. O., No. 1, se ne sw, 16-28-8e	10	2420
Mid Continent, No. 1, ne se sw, 15-20-10e	*	2719
L. G. Stanley et al, No. 1, se ne, 14-21-8e	*	701
Superior, No. 1, nw ne, 30-29-8e	*	2528
PAWNEE COUNTY—		
Peter Adamson, Thomas 4, se ne nw, 25-21-8e	40	1157
POTTAWATOMIE COUNTY—		
Texas, Calvin 6, se sw se, 7-8-5e	340	4175
Amerada, Gossland 3, ne se sw, 8-8-5e	155	4189
Amerada & Barnsdall, Wallace 2, nw sw sw, 17-8-5e	255	4067
Laurel O. & G. Co., Billington 3, sw ne ne, 18-8-5e	225	4042
Pure, Lindley 7, ne sw se, 18-8-5e	10	4136
Lindley 8, se nw se, 18-8-5e	41	4072
Sinclair, Bellars 9, se ne ne, 19-8-5e	235	4168
Bellars 10, ne se ne, 19-8-5e	585	4235
Brandenburg 1, se sw sw, 7-7-5e	3200	4066
I.T.I.O & Sinclair, Woodard 1, sw ne ne, 18-7-5e	130	4008
Magnolia, Brandenburg 3, se nw nw, 18-7-5e	990	4291
Sinclair, Nesbit 3, nw ne nw, 18-7-5e	5960	4118
Nesbit 4, sw ne nw, 18-7-5e	2085	4168
Superior, Clude 2, nw sw sw, 13-7-4e	100	4206
Magnolia, Youts 4, sw ne sw, 20-7-5e	10	4496
McCulloch Oil Co., Smith 6, ne sw se, 25-7-4e	270	4379
Pure, Bebee 1, se sw, 6-8-5e	*	4455
Shell, Wiley 2, nw, 8-8-5e	*	3980
Livingston 1, sw se, 33-7-5e	*	4580
Westheimer & Daube, Freid 7, ne se nw, 24-7-4e	*	4329
SEMINOLE COUNTY—		
Magnolia, Hyde 4, se nw, 13-9-5e	2870	4228
Amerada, Rice 2, se, 5-8-6e	610	4256
W. B. Pine, Harjo 2, ne sw se, 6-8-6e	980	4760
Independent, Lawson 5, nw se se, 1-8-5e	800	4287
Barnsdall, Coker 5, nw ne sw, 11-8-5e	600	4372
Empire, Cluck 2, nw se, 11-8-5e	380	4158
Cluck 4, nw sw ne, 11-8-5e	1260	4273
Sinclair, Bean 1, se ne nw, 11-8-5e	780	4263
Gypsy, Fife 1, ne sw nw, 14-8-5e	*	4480
Magnolia, Killing 2, sw nw nw, 14-8-5e		4325
STEPHENS COUNTY—		
Lone Eagle Oil Co., Simpson 3, ne nw se, 34-1s-8w	17	1830
Lundy & Denton, Stephens 1, ne sw 16-1s-5w	¶4	1002
Pace et al, McMasters 1, owdd, nw se ne, 13-2s-8w	250	1474
Vex-Mex-Mid-Continent, Gilworth 2, se ne nw, 2-2s-8w	15	2188
sw nw sw, 33-1n-8w; Magnolia, Oshter 1, ne 13-2s-8w	75	1497
Bristowe 1, nw sw, 18-2s-7w	35	1437

Company, Well and Location	Initial Production Bbls.	Depth
E. J. Stump, Brigham 1, nw, 34-2n-9w	*	2503
Coline Oil Co., Speer "B" 2, nw ne sw, 23-1n-8w	*	2180
Pace et al, Petty 1, sw nw nw, 17-2s-7w	*	1915
E. J. Stump, Simmons 1, sw, 26-3s-8w	*	3003
WAGONER COUNTY—		
Horner et al, Barnett 2, ne sw sw ne, 34-18-17e	¶1	826
C. F. Finefield, Woffard 1, nw sw sw, 22-16-19e	*	825

EASTERN FIELDS

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
WASHINGTON COUNTY—		
Ohio Fuel Gas Co., Barrett 1	¶½	1815
Anderson & Co., Flannery 1	10	920
John Coffman, Coffman 7	15	865
MONROE COUNTY—		
Sylvania Producing Co., Luburg Heirs 1	50	....
N. T. Stoudt & Co., Jeffers 1	*	1664
MORGAN COUNTY—		
Bowman & Co., Abel 6	¶¼	1440
Walker & Glass, Newson 26	¶¼	675
NOBLE COUNTY—		
Boling & Longfellow, Feldner 1	*	1165

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ASHLAND COUNTY—		
The Kemrow Co., Fluke 3	¶½	....
Smith & Faulkner, Obrecht 1	30	....
W. J. Smith, Humm 3	22	....
McIntyre & Co., Gardner 1	5	....
PERRY COUNTY—		
Ohio Fuel Gas Co., Brown 1	¶3	3496
Yu-Lad-Kan Oil Co., Bennett 1	5	....
MEIGS COUNTY—		
Cochran & Co., Sunburg 1	¶1¼	361
Pure Oil Co., Kantz 3	¶¼	1891
ASHTABULA COUNTY—		
Schaeffer Bros., Ring 1	¶1½	....
Ring 2	¶6	....
ATHENS COUNTY—		
Moore Oil & Gas Co., Moore 2	¶¼	1648
Kiggins & Co., Lovell 2	¶¼	1537
WAYNE COUNTY—		
Logan Gas Co., Oberholtzer 1	*	....
Ohio Fuel Gas Co., Kinney 1	*	....
JACKSON COUNTY—		
Ohio Fuel Gas Co., Eubanks 1	*	2816
Ohio Fuel Gas Co., Broyles 1	¶½	2652
LICKING COUNTY—		
Wigdon & Marchant, Little 4	*	765
Wittmer Properties, Kidwell 2	*	2823
GUERNSEY COUNTY—		
Craig & Sole, Moore 1	23	3383
LORAIN COUNTY—		
Ohio Fuel Gas Co., Haurey & Co. 1	¶¼	....
SUMMITT COUNTY—		
F. A. Brendall & Co., Daily 1	¶1	....

(Continued on page 84)

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APPRAISALS
REPORTS-COMMERCIAL & TAX

SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

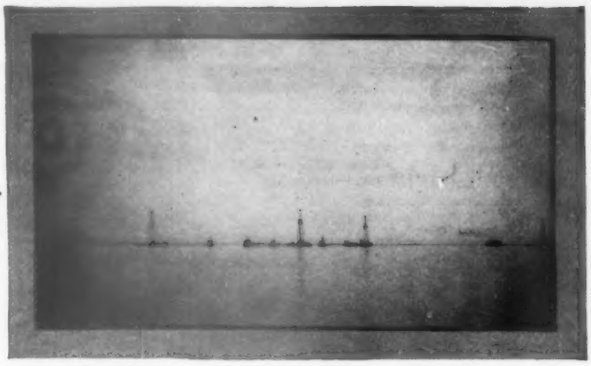
(Continued from page 83)

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn Oil Co., Bingham 400, tr 91	2	....
Bingham 400, tr 92	5	....
Bingham 410, tr 41	2	....
Bingham 410, tr 42	3	....
Bingham 196, tr 81	2	....
Bingham 196, tr 82	7	....
Bingham 423, tr 20	2	....
Bingham 423, tr 21	4	....
Bingham 390, tr 8	5	....
Bingham 533, tr 105	2	....
Bingham 499, tr 5	2	....
Culbertson 80	2	....
Burdick 70	2	....
Burdick 06-08	pressure	....
Whipple 21	4	....
Melvin 280	2	....
Melvin 281	2	....
Taylor 91	4	....
Dent 122	2	....
Associated Producers Co., Bingham 10	3	....
Bingham 212, tr 12	20	....
Bingham 184, tr 10	4	....
Bingham 568, tr 15	2	....
Bingham 568, tr 16	2	....
Bingham 214, tr 17	8	....
Bingham 214, tr 18	4	....
Hazlewood Oil Co., Lot 23, tr H1	2	....
Lot 23, tr H3	2	....
Lot 23, tr H5	2	....
Lot 23, tr H6	2	....
Lot 23, tr 116	2	....
Lot 25, tr 25	2	....
Bingham 16	8	....
Mix Creek Co., Mix Creek 62, 63 64, 65	Pressure	....
Mix Creek 66	2	....
Dallas Oil Co., Dallas 5	5	....
Tanner McKean Trust Co., Griffith 40, tr 1	7	....
Griffith 40, tr 2	10	....
T. H. Kennedy, Kennedy 9	3	....
Forest Oil Corp., Forest (8 wells)	8	....
Forest (6 wells)	Pressure	....
L. G. Shenfield, Werthman 1	3	....
A. H. Wilburg, Meldrum 1	4	....
Meldrum 2	4	....
H. F. & C. Jack, Jack 16	6	....
N. V. V. Franchot, Campbell 12	7	....
G. W. Smith, Smith 5	8	....
GREENE COUNTY—		
Consumers Fuel Co., Rutan 5	15	....
BUTLER COUNTY—		
A. C. Snow, Snow 5	7	....
Harmon & Co., Wagner 1	¶1¼	....
A. Affler, Brady 1	2	....
Berry & Robinson, Robinson 1	2	....
Stewart & Blair, Blair & Co. 6	2	....
J. E. Dufford, Noblock 2	*	....
Freeman & Beals, Montgomery 1	*	....
CLARION COUNTY—		
Alum Rock Gas Co., Hess 11	12	....
Keatley 1	3	....
Keatley 2	4	....
Maggio Oil Co., Maggio 3	4	....
Dittman & Co., Keating Heirs 4	¶1	....
Harkenrider & Co., Harkenrider 1	2	....
Citizens Trust Co., Whitehill 13	2	....
CENTER-MIDDLE FIELD—		
Rieg & Hickey, Henry 13	30	....
Fidelity Petroleum Co., Ulf. 1	¶¼	....
VENANGO COUNTY—		
Thomas McLaughlin, McLaughlin 16	¶1	....
Exchange Bank & Trust Co., Whildon & Co. 20	3	....
Oil Well Supply Co., Hoy 119, 120	*	....
Ladd & Cobb, Dana 5	3	....
S. Y. Ramage, Jr., Henderson 50	3	....
C. B. Kern, Cumming 6	2	....
M. F. Nuhfer, McPherson 12	2	....
Bone & Rice, Wright 1	2	....
Wright 2	2	....
Covert, Riddle & Co., Coast 2	2	....
ILLINOIS		
ST. CLAIR COUNTY—		
Ohio Oil Co., Anderline 1	45	704
Petty & Olenburg, Bruer 1	90	486
Collins & Co., Carr 1	*	768
CRAWFORD COUNTY—		
Big Four Oil & Gas Co., Waggoner 2	5	....

(Continued on page 86)

In Goose Creek and Maracaibo



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Bettis Protectors

The genuine anti-friction Rubbers for Drill Pipe

WEST VIRGINIA

(Continued from page 84)

Company, Well and Location	Initial Production Bbls.	Depth
CALHOUN COUNTY—		
L. F. McIntosh, Hamilton 2	*	
F. F. McIntosh, Morgan Heirs 2	¶2	
C. B. Lewis & Co., Stump 1	10	
RITCHIE COUNTY—		
J. W. Cochran, Cochran 4	*	
Miller Farm Oil Co., Miller 1	*	
Reno Oil Co., Mulenax 11	*	
JACKSON COUNTY—		
South Penn Oil Co., McCarty 4	10	
Heck Oil Co., Kuhl 3	10	
GILMER COUNTY—		
Golden & Co., Miller 1	¶1½	
South Penn Oil Co., Weaver 2	6	
WAYNE COUNTY—		
United Fuel Gas Co., Lincoln Land Association 2556	¶¼	
Lincoln Land Association 2558	¶¼	
WOOD COUNTY—		
Coplin Farm Oil Co., Coplin 4	3	
KANAWHA COUNTY—		
United Fuel Gas Co., Blue Creek Land & Coal Co. 2568	¶¼	
ROANE COUNTY—		
United Fuel Gas Co., Howard 1	¶1¼	
MARION COUNTY—		
Owens Bottle Machine Co., Fluharty 1	*	

KENTUCKY

OHIO COUNTY—		
Ohio Oil Co., Kirk 1, 2	*	
Kirk 3	200	
Hupp & Duff, Trodgen 3	50	
Cumberland Petroleum Co., Hamilton 17	20	
Hamilton 16	10	
Dr. Sirman Co., Farmer 13	20	
James C. Ellis & Co., Gossett 9	10	
Rex Pyramid Oil Co., Trodgen 1	*	
DAVIESS COUNTY—		
Huff & Calderwood, Salmon 4	115	
D. J. White & Co., Howard 2	30	
L. C. Young & Co., Hayden 8	10	
Hayden 9	*	
Smith, Randolph & Co., Whitesville Bank land 2	10	
New Domain Oil & Gas Co., Brown 2	*	
Daley & Lowman, Burton 5	*	
Eastern Gulf Oil Co., Ruby 5, 6	*	
Sidney Petroleum Co., Rodgers 1	*	
Whitmer Oil & Gas Co., Sutton 4	2	
Charles Toppeno, Ralph 2	*	
WARREN COUNTY—		
Allen Oil & Gas Co., Bettersworth 2	*	
Wood Oil Co., Travelstead 1	¶2	753
WEBSTER COUNTY—		
E. W. Wilson, Curry 2	20	

MICHIGAN

MUSKEGON COUNTY—		
Nelson & Witt, Horton 1	¶2 2000	2055
Swastika Oil & Gas Co., B. Gilbert 1	100	1705
Citizens-Lake Shore Petroleum Co., Nichols 2	25	1915
Johnson Oil & Refg. Co., Grotefield 2	25	1695
Cochran & Howard, Durham 1	20	1756
Continental Motors Corp., Fee 9	*	1686
Fee 11	*	1793
NEWYAGO COUNTY—		
Lima Oil Corp., Atwood 1	*	2598

NEW YORK

ALLEGANY COUNTY—		
A. C. A. Oil Corp., Fee 3	7	
Hughes, Hill & Co., Hughes & Co. 2	7	
N. V. V. Franchot, Franchot 17	12	
Buffington & Co., Volki 1	2	
Jacob Trenkle Estate, Trenkle 6	3	
Trenkle 7	Water	
P. W. Burdick & Co., Kinley Oil 4	3	
Martin Bros., Martin 2	3	
F. L. Putnam, Putnam 4	5	

NORTHWESTERN OHIO

HANCOCK COUNTY—		
Watts & Harmon, Bell 1	¶½	1327

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
CAT CANYON—		
Palmer-Union Oil Co., Stendill 15, 30-9-32	200	3412
HUNTINGTON BEACH—		
Western Drilling & Producing Co., No. 25	260	3845
KERN FRONT—		
The Texas Co., Midlands 8, 14-28-27	150	2035
LONG BEACH—		
Shell Oil Co., Goddard 8	150	7000
Nicholson 8	160	7001
South Basin Oil Co., Nakamura 1	150	6160
Stevens & Hardy No. 35	700	7061
Union Oil Co., Mills 1	300	6805
Texas Co., McDavid 4	100	7285
RINCON—		
General Pet. Corp., Hobson A-3	100	6650
SANTA FE SPRINGS—		
George F. Getty, Inc., No. 18	2500	6870
SUNSET—		
Signal Oil & Gas Synd., No. 2, 8-11-23	1900	3242
VENTURA—		
Shell Oil Co., Taylor 30	600	6505

ARKANSAS

UNION COUNTY (Smackover)—		
Hollifield & McFarland, Giller 18, 10-16-15	20	1982
S. Richardson, Lawton 7, 10-16-15	30	2087
UNION COUNTY— (Champagnolle)—		
Lion O. & R. Co., Kelly 2, 9-17-14	¶7	2822

NORTH LOUISIANA

CADDO PARISH—		
Bayou State Oil Co., Jolly 26, 22-22-15	20	1010
Jolly 27, 22-22-15	25	1040
DE SOTO PARISH—		
Benedum & Trees, Mahoney 1, 22-14-12	sw	2900
Magnolia Pet. Co., Fortson 4, 4-12-11	¶1½	757
LA SALLE PARISH—		
G. W. Zoder, King 1, 13-10-1e	130	1525
EAST CARROLL PARISH—		
Palmer Corp., O'Brien 2, 6-19-11e	¶31	2337
RICHLAND PARISH—		
Richland Operating Co., S. R. Humble 1, 30-16-7e	¶18	2452
UNION PARISH—		
Wingfield et al, Hudson 2, 7-23-1e	sw	2270
Hudson 3, 7-23-1e	sw	2280
WEBSTER PARISH—		
Magnolia Pet. Co., Ira Cox 4, 23-21-10	¶40	4557

SOUTH LOUISIANA

Completions

EVANGELINE—		
Jennings Pet. Co.'s Eunice Crowley 2	200	4308
VINTON—		
Vinton Pet. Co.'s Vincent 21	100	2965
SULPHUR—		
Union Sulphur Co.'s Fee 743	*	2500
J. W. Watson's La. Land Co. 1	*	4200
HACKBERRY—		
Pure Oil Co.'s Duhon 1	300	3177
Duhon 2	200	3132

TEXAS

TEXAS GULF COAST

Completions

BLUE RIDGE—		
Blakely & Means' Blakely 2	300	3725
PIERCE JUNCTION—		
Navarro Oil Co.'s Humble-Dooley 4, (oww)	1500	4585
SOUTH LIBERTY—		
Navarro Oil Co.'s Baldwin 2	*	1325
ORANGE—		
Brownie-Babbett Oil Co.'s McLean 5, (oww)	20	3100
SUGARLAND—		
Humble's Brazos Farm 3	1200	3568
Sugarland Industries 6	800	3733
BOGGY CREEK—		
Humble's A. Purvey 1	¶4	3688

EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
HARRISON COUNTY—		
C. H. Lyons, Furrh 4, Short sur	¶2	2375
PANOLA COUNTY—		
Beckman & Freeman, Burns 4, E. Williame sur	sw	1051
Texas Co., T. C. Adams A-9, Thomas Cox sur	¶2½	973

NORTH TEXAS

ARCHER COUNTY—		
C. W. Boller and M. & V. Oil Co., Falls County Fee 2	7	1179
L. G. Bradstreet & Co., Owens 2	*	752
Bridwell Oil Co. et al, Hamilton 1	20	1125
Consolidated Oil Co., Tarr 1	*	1608
F. H. Gohlke et al, Wilson 2-B	60	1576
Gulf Prod. Co., H. L. Ward 4	15	1041
D. O. Johnson et al, Wilson 6-A	60	1564
Kemrow Prod. Co., Campbell 3	*	793
P. J. Lea and Daniels, Williams 6	20	570
Magnolia Pet. Co., A. Kunkle 2	*	1260
McLaughlin Bros. et al, Parkey 1	*	1550
Moran Drlg. Co. and Independent O. & G. Co., Scott 1	45	1208
Panhandle Ref. Co., Turbeville 1	*	1515
F. Payne et al, Parrish 1-A	60	1597
Petroleum Prod. Co., Kunkle 1-B	55	1185
Reno Oil Co., Wilmot 9	*	2290
Shappell Oil Co., Jackson 45	*	1808
C. P. Shelden et al, Chilson 1	*	1820
Shell Pet. Corp., Abercrombie-Taylor 3-A	15	1390
Jim Turner et al, Lyles 5	*	1733
United Producers Co. et al, Brown 1	20	1483
CLAY COUNTY—		
L. L. Bain et al, Culberson 4	5	334
R. T. Belcher et al, Evans 1	60	1791
COOKE COUNTY—		
Max Westheimer et al, Cox 1	*	1758
ELECTRA—		
Bullington-Lee et al, Jennings 10	*	1643
Harry Hines et al, Burnett 2-A	20	1403
T. F. Hunter et al, Waggoner Bros 1-C	25	1309
Panhandle Ref. Co., Burnett 1-A	70	1409
R. R. Robertson et al, Waggoner Bros. 1	55	1731
GRAYSON COUNTY—		
Smith & Simpson-Fell Oil Co., Owens 1	*	1203
JACK COUNTY—		
L. C. Harper et al, Mrs. Mary Leffel 1	700	3100
K-M-A & IOWA PARK—		
Staley-Wynne & Co., K. & K. 16	*	840
E. J. Stump & Co., Boyd 2	285	1782
Underwood Drlg. Co. et al, L. Morgan 1	*	2062
MONTAGUE COUNTY—		
The Texas Co., Salmon 2-C	13	1010
WILBARGER COUNTY—		
Burton et al, Waggoner 1-I	155	1878
Continental Oil Co., Waggoner 1-L		2480
Robertson Drlg. Co., Waggoner-Webb 1	170	1990
The Texas Co., Waggoner 3-D	60	2392
Waggoner 17-E	165	2422
Wilbarger Oil Co., Waggoner 1-B	15	1992
YOUNG COUNTY—		
Continental Oil Co., Campbell 6-B	100	918
Pennell et al, Calvin 4	25	560
Riggs & Oliphant et al, Langston 1	*	645
The Texas Co., Petty 1	*	854

WEST TEXAS

FISHER COUNTY—		
Cranfill-Reynolds and Sun Oil Co., Fleming 1	*	3218
HOWARD COUNTY—		
Magnolia Pet. Co., Roberts 18	20	2570
Mid-West Explo. Co., Clay 3-C	180	1806
Moody Corp. (Superior), Roberts 1-B	200	2620
JONES COUNTY—		
Grisham-Hunter Corp., Tiner 1	10	2541
LOVING COUNTY—		
Lockhart & Co., H. L. Lepp 1	250	4242
REAGAN COUNTY—		
Big Lake Oil Co., University 159	125	2911
University 163	125	2447
WINKLER COUNTY—		
Barnsdall Oil Co., Tobe Morton 2	*	3124
Prairie O. & G. Co., J. B. Leck 1	¶30-1440	3123

(Continued on page 90)

PERMITS GRANTED FOR NEW WELLS

CALIFORNIA

BELRIDGE—The Ohio Oil Co.'s 25, 30-28-21.

FRUITVALE—Shell Oil Co., Ansolabehere 1, 5-29-27.

KERN RIVER — Chanslor-Canfield Midway Oil Co.'s 24, 23-28-27.

KETTLEMAN HILLS—Associated Oil Co.'s Watson 1, 34-22-18.

LONG BEACH—Graham-Loftus Oil Corp.'s Dodge 2, 24-4-13. Shell Oil Co.'s Stakemiller 7, 29-4-12. Miley Oil Co.'s Mills 7, 19-4-12. Warren and Macrate's Neet 3, 19-4-12.

LOS ANGELES COUNTY — Allied Pet. Corp.'s Lincoln 1, 28-3-14.

MIDWAY—North American Oil Cons., No. 21, 2-32-23; No. 48, 30-31-24; No. 49, 30-31-24. Standard Oil Co.'s No. 115, 7-32-24; No. 17, 29-31-24.

MT. POSO — Petroleum Securities Co.'s Glide 12, 21-27-28.

MONTEREY COUNTY — Union Oil Co.'s Page 1, 8-22-8.

RINCON—C. C. M. Oil Co.'s Hobson 1, 16-3-24.

ROUND MOUNTAIN — Shell Oil Co.'s Jewett 6, 29-28-29. Elbe Oil Land Dev. Co.'s Freeman 4, 20-28-29.

SANTA BARBARA COUNTY—Union Oil Co., (-)-7-31. General Pet. Corp.'s More 1, 21-4-28.

SANTA FE SPRINGS — Commodore Pet. Co.'s Landl 5, 5-3-11. Union Oil Co.'s Bell 48, 6-3-11; Bell 49, 6-3-11; Bell 50, 6-3-11; Alexander 18, 6-3-11; Alexander 19, 6-3-11. General Pet. Corp.'s Santa Fe Comm. 185-D, 6-3-11; Santa Fe 152-H, 5-3-11; Santa Fe 145-D, 5-3-11.

SANTA PAULA—Superior Oil Co.'s Kirtlan 14-1, 14-4-21.

SOUTH MOUNTAIN — The Texas Co.'s Willard 26, 18-3-20; Harvey 26, 13-3-21.

SUNSET—Fred D. Turner's No. 1, 10-11-23.

TULARE COUNTY—A. Bruce Frame's 1, 8-23-26.

VENTURA—California-Ventura Oil Co.'s 20, 4-3-23. Federal Oil Co.'s Sexton 1, 30-3-22.

OKLAHOMA

CADDO COUNTY — English Drilling Co., Williams 1, se ne, 3-5n-9w.

CHEROKEE COUNTY — Shell, Willey 1, nw ne, 25-16-19e.

CREEK COUNTY — Magnolia, Vance 31 (owd) sw se ne, 7-18-7e; Wallace & Willoughby, Brown 1-A, se, 27-18-9e; R. O. Bailey et al, Walker 4, nw sw sw, 21-18-9e; Roxaline Oil Co., Boling 3, nw sw sw, 27-17-12e; Jackson and Wise, Franks 2, nw sw sw, 1-17-11e; Lynch et al, Grayson 3, sw ne nw, Billingslea and Riverland Oil Co., Harjo 1, ne se nw, 28-14-10e; Billingslea and Gypsy, Henry 1, ne nw, 6-14-9e; Turner Bros., Felix 1, nw sw ne; Chief Drilling Co., Sheridan 1, sw ne, 33-16-11e.

GARVIN COUNTY—Magnolia, Cowan 29, nw se ne, 14-1n-3w; Magnolia, Newberry 6 (owd) sw nw se se, 14-1n-3w.

GRADY COUNTY—Clark & Cowden, Freid 3, c sw sw, 23-5n-7w (owd.)

GRANT COUNTY—Consolidated Gas Util. Corp., Stuarnky 1, sw ne, 14-27-3w.

HUGHES COUNTY—McGee Bros., Smith 1, se sw, 25-8n-11e; Gypsy, McNevins 1, sw, 5-8-9e.

KIOWA COUNTY—Head & Amphlett, Abbott 1, ne sw nw, 32-6n-16w.

OKMULGEE COUNTY—A. W. Kline, Harrison 1a, se nw, 19-15-14e.

MUSKOGEE COUNTY — E. A. Smith, Barnes 1, sw se sw, 16-13-19e; Arthur Oil Co., Garrett 10, c ne sw, 33-15-18e; Cherokee Public Serv. Co., Grimmett 2, sw nw, 10-15-17e; Bryan Pet. Co., Simmons 1a, sw nw sw sw, 3-15-16e.

OKFUSKEE COUNTY—Fern Oil & Gas Co., Holmes 1, cel se se, 24-11-10e.

OSAGE COUNTY—Red Bank Oil Co. No. 1, se ne nw, 11-20-10e; W. D. Gray et al, No. 1, se ne ne, 9-24-9e; A. G. Oliphant et al No. 2, ne nw ne, 6-23-9e; Silurian No. 54, se ne nw, 17-23-12e.

PAYNE COUNTY—Blackwell O. & G. Co., Olive 1, ne sw sw, 7-19-5e; Pure, Brown 1, ne sw ne, 5-19-5e (owd.)

PONTOTOC COUNTY — LaSalle Oil Co., Hatcher 1, nw se, 28-5-5e; Homaokla Oil Co., Ritchie 3, c n½ se, 1-4n-7e.

POTTAWATOMIE COUNTY—Continental, Light 1, ne se se, 18-7-4e.

SEMINOLE COUNTY—Carter, Davis 1, ne se sw, 7-6-8e; I. T. I. O. No. 1, ne, 24-6-7e; Foster Pet. Co. and Pure, No. 1, sw ne, 13-6-7e; Magnolia, Anderson 2, sw se ne, 18-9-6e; Magnolia, No. 1, se, 28-7-6e; Magnolia, Sarkey 1, sw ne nw, 8-9-6e; Gypsy, Payne 1, nw ne se, 18-9-6e; Devonian, Harjo 1, ne nw nw, 18-9-/e; Amerada, Nicey 1, sw se se, 3-9-6e; Gypsy, Cozad 2, ne sw, 27-7-6e; Sinclair, Davis "B" 1, se ne sw, 7-6-8e.

STEPHENS COUNTY—Magnolia, Hanson 3, se ne nw, 12-1s-4w; Magnolia, Marks 4, ne se, 13-2s-8w; Fisher & Rankin, Williams 1, se sw nw sw, 33-1n-8w; Magnolia, Oshter 1, ne se, 9-1n-5w.

TULSA COUNTY — Gray Oil Co., Leader "B" 2, c nw ne, 31-18-11e.

KANSAS

BUTLER COUNTY—Noble et al's Wens 1, ne se 20-26-7e. Empire, Koogler 79, ne sw nw, 20-26-5e; Koogler, 80, ne se nw, 20-26-5e; Brandenburg "A" 6, nw ne ne, 22-27-5e; Cranston 7, se sw se, 22-27-5e. Ed Schreck et al's Teeter 1, se sw, 8-25-7e. Empire & Phillips, Robinson "B" 1, nw ne, 29-25-4e.

CHASE COUNTY — Smith & Polhamus, Leedy 1, sw nw 36-22-9e.

CHATAUQUA COUNTY—Petroleum Prod. Corp., White 1, se nw, 5-32-10e.

COWLEY COUNTY—Blankenship & Washoma Oil Co., Hedrick 1, se sw ne, 16-32-4e. Marland et al's Fee 1, sw ne 8-31-8e. Shawver et al's Beard 2, nw se se 17-34-3e.

DICKINSON COUNTY—Millmack Oil Co., Riehler 1, sw ne, 28-16-4e.

ELK COUNTY—Barber et al's Brown 1, ne sw, 12-30-9e.

GREENWOOD COUNTY — Parkins et al, Carson 1, se ne, 5-24-11e Independent, Race 3, ne nw se, 19-23-10e. D. M. Rhodes, Norton 1, nw ne, 22-22-12e.

MARION COUNTY—Empire, Schully "B" 1, se, 1-19-2e; Schully 1, sw ne ne, 28-19-2e.

RENO COUNTY — Empire, Henderson 1, sw, 35-25-4w.

RILEY COUNTY—Derby Oil Co. et al's Lundstrom 1, ne, 32-7-5e.

SEDGEWICK COUNTY—Shawnee Oil Co.'s Newman 1, se sw nw, 5-26-2e. Twist et al's Armstrong 1, ne nw, 28-26-1e.

LOUISIANA

ASCENSION PARISH—Belle Helene Oil Co., Inc., New Orleans, Desire Breaux 1, 32-10s-2e, Beginning at the se cor of sec 31 or ne cor sec 32-10s-2e; thence n 57 degrees w along sec line 4910 ft; thence s 35 degrees w 238 ft to well. Well being located in the northwest portion of sec 32-10s-2e. East side of Mississippi River, Ascension Parish, the same being Mrs. Desire Breaux tract of land which is bounded on north by Nelson Himel and on the south by Hudson Gaudin.

CADDO PARISH—H. I. Morgan et al, c/o Root Refinery Co., Shreveport, Liebman 1, 12-19n-15w, 330 ft n and 330 ft w of se cor or ne¼ of ne¼. Simplex Oil Co., Inc., Shreveport, S. Allen Dickson 1, 33-20n-14w, 660 ft n and 660 ft e of center of sec. The Texas Co., Shreveport, Caddo Parish School Board 2, 16-15n-12w, 1320 ft n and 1320 ft e of sw cor of sec.

CALCASIEU PARISH — Gulf, Houston, Gardner-Noble-Gray 68, 33-10s-12w, 50 ft s and 50 ft e of nw cor of ne¼ of se¼.

CAMERON PARISH—Cameron Oil Co., Inc., Vinton, Ludger Duhon 5, 28-12s-10w, 1090 ft n and 610 ft e of sw cor of sec. Calcasieu Oil Co., Inc., and Magnolia, Sulphur, Alicide Doiron et al 6, 37-12s-10w, 3508 ft w and 1453 ft s of se cor of sec 13 in sec 37. H. T. McClain, Lake Charles, Porter Ellender 1, 28-12s-10w, 2560 ft n and 610 ft w of se cor of sec. Sun Company. Beaumont, R. Vincent 3, 28-12s-10w, 512 ft n and 75 ft e of sw cor of ne¼ of sw ¼.

OUACHITA PARISH — Interstate Natl. Gas Co., Monroe, Hunter-McCormick 2, 13-19n-3e, 670 ft s and 660 ft w of ne cor of nw¼. Interstate Natl. Gas, Monroe, Hunter-McCormick 3, 41-19n-3e, 660 ft 46 deg w and 660 ft s, 44 deg w of most eastern cor of Sec. 41. Interstate Natl. Gas Co., Inc., Monroe, Hunter-McCormick 4, 1-19n-3e, 1676 ft s and 363 ft e of nw cor of sec. Interstate Natl. Gas Co., Monroe, Hunter-McCormick 5, 40-20n-3e, 874 ft s and 267 ft w of ne cor of sec. Moody-Seagraves, Shreveport, Phillips 2, 18-19n-4e, 660 ft n and 2247 ft w of se cor of sec.

RICHLAND PARISH—Richland Production Co., c-o Moody-Seagraves, Shreveport, J. H. Helmer 1, 2-16n-6e, 660 ft n and 1320 ft w of se cor of sec. Southern Carbon Co., Monroe, Tegola, Inc. 1, 4-15n-6e, 1980 ft n and 660 ft w of se cor of sec.

SABINE PARISH—A. H. Tarver, Shreveport, Long-Bell Lbr. Co. 1-B, 29-8n-13w, 330 ft s and 330 ft e of nw cor of sw¼ of nw¼.

UNION PARISH—The Texas Co., Shreveport, F. M. Fuller 1, 9-21n-2w, 1020 ft e and 300 ft n of sw cor of nw¼.

TEXAS

ARCHER COUNTY — Johnson & Fraser, Wichita Falls, D. H. Wallace, 20, A1, B 11, DCSL sur, 150 ft from n and e lines. Shappell Oil Co., Wichita Falls, J. L. Jackson, 243, 45, B 5, DCSL sur No. 3, 1350 ft from e and 830 ft from s line. R. N. Hamilton, Wichita Falls, P. Browning, 150, 1, 88 GE&L sur, 766 ft from e and 200 ft from s line. Moran Drilling Co., Wichita Falls, J. M. Bloodworth, 80, 1B, M. Cartwright sur, 150 ft from n and w lines. L. T. Burns, Wichita Falls, A. J. DeMoss, 125, 1, S. Smith sur, 200 ft from w and 450 ft from s line. Gulf, Fort Worth, H. L. Ward, 48, 2, J. Tomlinson sur, 150 ft from e and 450 ft from s line. Shell, Wichita Falls, C. L. Abercrombie, 19, C 4, S 41, J. W. Harris sur, 490 ft from e and 150 ft from s line.

ANGELINA COUNTY—C. L. Arnett et al, Lufkin, T. Henderson 500, 1, B 6, W. H. Holman sur, center of blk 6.

BROWN COUNTY—G. R. Woods, Camp-

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending April 13	Previous week	Total this month	Total this year	This week Last Yr.	This month 1928	1928 year total
Arkansas	...	9	9	46	7	9	331
California	37	23	60	427	16	33	1,207
Louisiana	18	22	40	228	20	30	680
Kansas	23	14	37	267	25	46	1,032
Oklahoma	50	40	90	841	75	143	3,744
Texas	141	184	225	2,252	169	321	8,297
Total	269	292	461	4,061	312	582	15,291

bell, Neb., B. S. Boysen, 160, 2, S 134, J. C. Mullen 175 ft from n and 1000 ft from w line. Barbara Oil Co. & Bearman, Cisco, J. E. Spence, 80, 4, J. T. Swindle sur, 400 ft from w and 800 ft from s line. Humble, Wichita Falls, H. G. Tervooren, 77, 3, S 11, HT&B sur, 600 ft w of No. 2; J. T. Hodnett, A 160, A 22, J. M. Harris sur, 400 ft e of No. 6. E. W. McCrary, Tulsa, Smith, 30, 66, Huling sur. Geo. Christie, Rising Star, Wilkins, 35, 1, S 18, Delgado sur, 150 ft from n and 450 ft from e line.

BRAZORIA COUNTY—Sinclair Oil & Gas Co., Houston, G. W. Norton 6, P. D. McNeel sur, 410 ft sw of No. 3.

BURLESON COUNTY——J. M. Burnham, N. P. Anderson Bldg, Fort Worth, W. M. Krause, 160, 1, J. J. DeWitt sur, center; J. H. Baker, 200, 1, J. P. Cole sur, east central.

BASTROP COUNTY—E. W. Ogden, Bastrop, M. M. McCall, 538, 1, S. F. Austin sur. Texas Co., Houston, A. Yoast, 40, 5, A. Garcia sur, 300 ft ne of No. 4.

BREWSTER COUNTY — E. L. Chapman, Fort Worth, S. P. Skinner, 40, 2, S 100, B 3, GC&SF sur, nw¼ of se¼.

CALLAHAN COUNTY — Oyster & Rife, Abilene, H. W. Ross, 80, 1, S 86, BBB&C sur, 660 ft from n and e lines. Moutray Oil Co., Abilene, A. Hickman, 390, 39, S 149, BBB&C sur, 309 ft ne of No. 9. Reiter-Foster Oil Corp., Tulsa, P. G. Hatchett, 60, 26, S 24, D&D Asy. sur, 150 ft from n and 550 ft from w line. Gibson & Jehnson, Abilene, S. N. Dunlop, 160, 1, S 151, BBB&C sur, 660 ft from s and w lines. Texas Co., Wichita Falls, P. G. Hatchett, 240, 26, S 23, D&D Asy. sur, 150 ft from s and 482 ft from w line of sw¼ of ne¼. Moutray Oil Co., Abilene, P. G. Hatchett 40, 15, S 24, D&D Asy. sur, 150 ft from s and e lines nw¼ of sw¼. Greathouse et al, Route 2, Moran, Isinghoner, 40, 1, 2299 TE&L sur, 450 ft from w and 150 ft from s line. Jno. H. Kleiner Box 743, Cisco, P. Hughes, 10, 1, S 129, BBB&C sur, 150 ft from n and w lines. M. C. McDonald, Putnam, A. S. Lobban, 200, 30, 2995 TE&L sur, west central part of lease.

COLEMAN COUNTY — Eastland Oil Co., Fort Worth, I. Keeney, 94, 1, 269 R. Cochran sur, 250 ft from s and 450 ft from w line. Westbrook Oil Corp., Fort Worth, W. T. Laughlin, 128, 1, No. 153 D. A. Jackson sur, sw corner. Clark & Cowden et al, Box 207, Duncan, Okla., B. W. Webb, 259, 1, B 179, D. D. Young sur, 200 ft from n and 1730 ft from e line. Herbert Oil Co. of Texas, Fort Worth, A. Bennett, 20, A1, B 24, L. Johnson sur, nw cor of blk 24. E. L. Chapman, Fort Worth, C. Fuller, 89, 1, S 12, M. Martinez sur, 300 ft from n and e lines; 3, 550 ft s of No. 1.

CLAY COUNTY—Merrick & Belcher, Harvey-Snider Bldg., Wichita Falls, Hanagan, 40, 2, se¼ B 6, BCSL sur, 340 ft n of No. 1. Mid-Continent Holding Corp., Wichita Falls, Bates, 48, 1, B 6, PCSL sur, 150 ft from s and e lines; L. S. Wright, 107, 4, 2632 TE&L sur, 300 ft n of No. 1.

CALDWELL COUNTY—Humble, Wichita Falls, Moses-Baggett, A 92, 8, G. Hinds sur, 150 ft from n and e lines; Walker, 25, 1, A. Floyd sur, 150 ft from s and e lines. Gulf, Houston, R. W. Carter, 61, 12, G. Hinds sur, 300 ft w of No. 10; J. D. Wright, A 22, 8. G. Hinds sur, 300 ft s of No. 7. C. E. Lange, San Antonio, T. Briscoe, 12, 1, P. B. McCleary sur, 150 ft from s and w lines.

CHEROKEE COUNTY—Humble, Houston, J. C. Holt, 180, 1, A. D. Oliphant sur, 150 ft from n and w lines.

COOKE COUNTY — Pure Oil Co., Fort Worth, J. C. Embry, 80, 6, T. J. Moss sur. Kewanee Oil & Gas Co., Box 1940, Tulsa, Lanier B, 104, 3, E. T. Ry. sur, 50 ft s of No. 2. Texas Co., Wichita Falls, H. L. Dennis, 51, 8, T. J. Hutchinson sur, 300 ft e of No. 7; A. J. Dennis, 80, 1, J. Stump sur, 150 ft from e and 647 ft from s line.

CRANE COUNTY—Gulf, Fort Worth, W. N. Waddell, 640, 7, S 10, B B23, 2640 ft from n and 330 ft from w line s 10.

CHAMBERS COUNTY—Talbot & Markle, Houston, J. G. Schilling 3, 1, H. Griffith sur, 120 ft from w and 22 ft from s line.

DUVAL COUNTY—Wm. F. Morgan, San Antonio, Harper & King, 220, 3, S 323, Blk. 7, east of No. 2. S. & O. Oil Co., Corpus Christi, Bowe, 40, 3, S 250, B 20, Rosita Valley sur, 150 ft from n and 328 ft from e.

EASTLAND COUNTY — States Oil Corp., Eastland, Calvert, 160, 9, S 17, B 4, H&TC sur, 1050 ft from e and 250 ft from s line of se¼ of ne¼ of Sec. 17. Arnold Kirk, Gorman, J. S. Turner, 40, 1, S 30, B 2, H&TC sur, 547 ft from e and 150 ft from s line ne¼ of nw¼ of Sec. 30.

FALLS COUNTY—Pettus & Carruth, Chilton, H. W. Flowers, 103 2, J. A. Manchaca sur, 150 ft from n and w lines.

FORT BEND COUNTY — Sun Oil Co., Beaumont, E. C. Farmer, 125, 6, J. Scott sur, 700 ft from s and e lines.

FANNIN COUNTY—B. C. Graves et al, Gainesville, Cunningham, 1, G. W. King sur, 1470 ft from e and 1780 ft from s line.

GRAY COUNTY—Magnolia, Dallas, J. B. Bower, 160, 4, S 63, B B2, H&GN sur, 330 ft from n and w lines. H. F. Wilcox Oil & Gas Co., Tulsa, Combs, 160, 6, S 60, B 3, I&GN sur, 330 ft from s and e lines of sw¼. Phillips Pet. Corp., Bartlesville, Jackson, 80, 5, S 88, B B2, H&GN sur, 650 ft e of No. 1. Marland, Fort Worth, B. E. Quigley, 279, 1, S 32, B B2, H&GN sur, 330 ft from n and e lines. Sun Oil Co., Dallas, Patton, 80, 1, S 61, B B2, H&GN sur, 330 ft from n and 269 ft from e line.

GONZALES COUNTY — Wm. F. Morgan, San Antonio, J. L. Lamkin, 1000, 1, W. Turner sur, 150 ft from w and 810 ft from s line.

GRAYSON COUNTY—Sherman Oil & Gas Co., Sherman, R. C. Dalton, 72, 1, Reeves & Ingram sur, nw corner.

HOWARD COUNTY—Cosden & Co., Inc., Fort Worth, D. Roberts, 80, 40, S 128, B 29, W&NW sur, 200 ft from s and e lines. Marland, Fort Worth, H. R. Clay, 240, 9, S 139, B 29, W&NW sur, 330 ft from s and w lines of S 139; H. R. Clay, 240, 8, S 155, B 29, W&NW sur, 330 ft from n and e lines of S 155;

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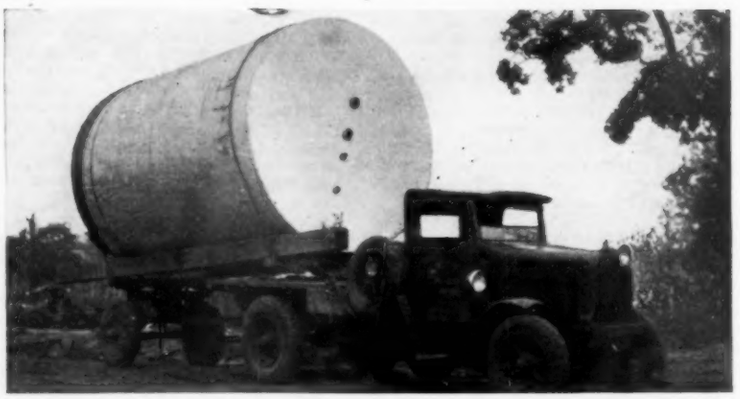

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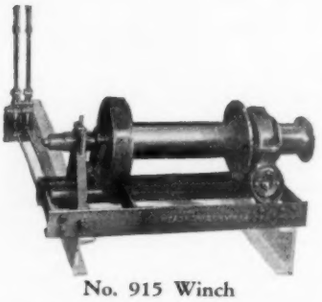

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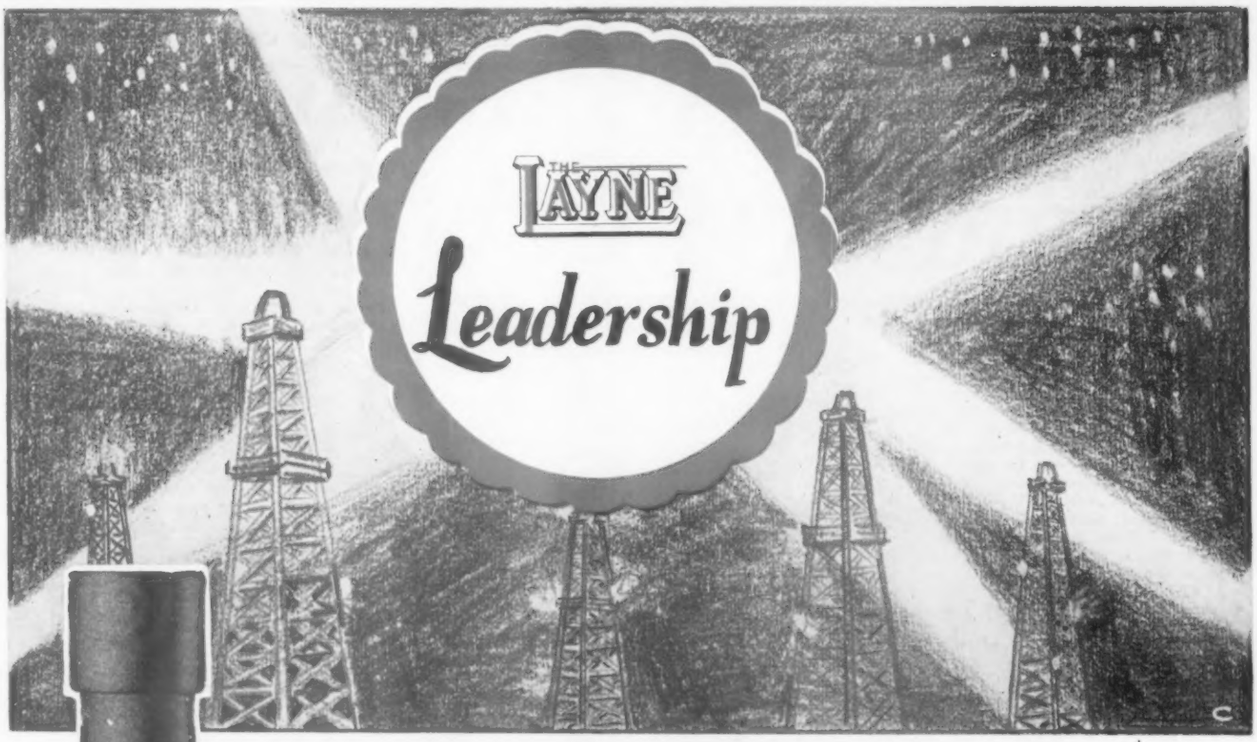

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H. R. Clay, 11, S 127, B 29, W&NW sur, 210 ft from w and 1520 ft from s line of Sec. 127.

HARRIS COUNTY — Cezeaux & Martin, Humble, Mason, 17, 4, J. B. Jones sur, 50 ft from e and 100 ft from s line. Harvey S. Smith, Houston, G. H. Herman, 25, 2, G. H. Herman sur, 25 ft from s and 630 ft from e line.

HUTCHINSON COUNTY — Gulf, Fort Worth, C. L. Dial, 135, 44, S 36, B M23, 325 ft from e and 330 ft from s line; C. L. Dial, 45, S 25, B 47, H&TC sur, 60 ft from n and e lines.

HUDSPETH COUNTY — L. E. Lockhart, Pecos, Fee, 640, 1, S 5, B 21, se corner of Sec. 5.

HARDIN COUNTY—Minor Oil Co., Beaumont, Fee 40, 86, S. Jackson sur, 70 ft s of No. 83.

HASKELL COUNTY—A. P. Kouri, 1302, Giddings St., Wichita Falls, Reynolds, 80, 1, S 103, I. Ry. sur, 600 ft from s and w lines.

JACK COUNTY—Puttram Pet. Corp., Oklahoma City, S. V. Vanhooser, 250, 1, SFIW sur, 285 ft from n and 250 from e line. R. M. Gates, Henrietta, Texas, G. Fry, 130, 1, S 5, M. Anderson sur, sw corner.

JEFFERSON COUNTY — Yount-Lee Oil Co., Beaumont, Gladys, 87, B 57, J. A. Veatch sur, 145 ft from w and 18 ft from s line; Gladys, 86, B 97, J. A. Veatch sur, 140 ft from w and 40 ft from n line.

LIBERTY COUNTY—Republic Prod. Co., Houston, C. A. Mysilvec, 233, 1, B 27, H&TC sur, 715 ft from w and 798 from s line. Navarro Oil Co., Houston, A. Baldwin, 15, 4, M. G. White sur, 50 ft from n and 207 ft from w line.

MILAM COUNTY — Bowman & Vetter, Houston, Batte, 324, 1, W. W. Lewis sur, 360 ft w of center of e line. E. L. Chapman, Fort Worth, J. M. Gilchrist, 30, 1, J. J. Acosta sur, 150 ft from n and w lines. Milam County Oil Dev. Co., San Antonio, J. M. Duncan, 320, 1, J. J. Acosta sur, 1800 ft from nw and 750 ft from sw line.

MONTAGUE COUNTY—Bridwell Oil Co., Wichita Falls, D. A. Lauderback, 40, 1, F. Robertson sur, 1066 ft from s and 518 ft from e line.

MITCHELL COUNTY—H. H. Adams, Ft. Worth, 80, 1, S 20, B 18, SP Ry. sur, 150 ft from n and e lines se¼ of sw¼ of Sec. 20.

NAVARRO COUNTY—Wm. Clarkson, Jr., Corsicana, Bradley, 100, 19, RCSL sur, 188 ft from n and 1365 ft from w line. Jack Wilder, Rice, J. B. Bradley, 50, 1, RCSL sur, 160 ft from e and 270 ft from s line.

PECOS COUNTY — Buell & Hagan, San Angelo, University, 160, 1, S 36, B 18, 660 ft from e and 330 ft from s line. Pecos Dev. Co., Pasadena, Calif., Fee, 1, S 22, B 10, H&GN sur, center. Weekly Oil Corp. et al, Fort Worth, Byrne, 30, 1, S 24, B 10, H&GN sur, 150 ft from n and e lines. M. H. Black, Fort Stockton, Pecos Valley Oil Co., 10, 1, S 22, B10, H&GN sur, center.

SHACKELFORD COUNTY—S. E. Frogge, Drawer W, Breckenridge, R. N. Anderson, 40, 1, S 15, Blind Asy. sur, 150 ft from s and e lines nw¼ of se¼. Home Oil & Gas Co., Albany, M. Huber, 80, 10, 531 TE&L sur, 1630 ft from nw and 450 ft from ne line. T. P. Coal & Oil Co., Ranger, W. P. Newell, 320, 10, 1174 TE&L sur, 1200 ft from n and 1124 ft from w line. Midland Oil Co., Fort Worth, J. M. Proctor, 160, 1, S 166, E. T. Ry. sur, 150 ft from s and e lines s½ of sw¼. Tannehill, Kiser & Fleming, Albany, E. E. Whitney, 220, 1, 802 TE&L sur, 900 ft from nw and 1200 ft from sw line. R. B. Fields, Albany, S. L. English, 55, 1, 541 TE&L sur, 350 ft from n and 150 ft from w line. McDonald & Campbell, Dallas, G. E. Reynolds, 100, 1, S 11, B 11, T&P sur, 150 ft e of center of w line. Scott & Walker, Albany, L. C. Huskey, 320, 12, 568 TE&L sur, 300 ft w of No. 3. Ohio Texas Oil Co., Albany, J. B. Matthews, 140, C2, S 29, E. T. Ry. sur, 300 ft s of No. 1. J. B. Matthews 140, 14, S 29, E. T. Ry. sur, 300 ft s of No. 1. Chas. Gordon, Moran, G. E. Waters, 40, 1, S 61, Univ. Lands sur, 580 ft from e and 450 ft from s line. Callashack Oil Co., Moran, M. E. Anderson, 320, 2, S 65, LAL sur, 300 ft se of No. 1. W. D. Long et al, Tulia, Bankston, 150, 1, S 105, Univ. Lands sur, 300 ft from n and 150 ft from w line. Less Combest et al, Mineral Wells, H. H. Elliott, 40, 5, S 12, LAL sur, 600 ft from n and 1050 ft from w line. C. A. Waid, Breckenridge, J. T. Sammon, 40, 1, S 499, 150 ft from w and 635 ft from s line.

STEPHENS COUNTY—Lone Star Gas Co., Dallas, R. Elliott, 339, 4, S 55, B 7, T&P sur, 700 ft from s and w lines. Mid-West Exploration Co., Amarillo, J. F. Dannenhold, 320, 1, 1504 TE&L sur, 466 ft from s and w lines.

THROCKMORTON COUNTY—J. A. Bearman, Cisco, J. A. Ledbetter, 80, 1, S2, SP Ry. sur, 150 ft from n and w lines.

UPTON COUNTY—Humble, Wichita Falls, R. P. Ricker, 1280, 11, S 5, M. S. Denton sur, 5390 ft from nw and 1320 ft from ne line. Sun Co., Dallas, R. E. Long, 640, 1, S 3, R. T. Co. sur, center.

WICHITA COUNTY—Panhandle Ref. Co., Wichita Falls, T. L. Burnett, 80, R2, S 6, G. P. Meade sur, 150 ft from s and w lines sw¼ of nw¼; A3, south of No. 1. Venmex Oil Co., Wichita Falls, T. J. Waggoner, 219, 15, S 2, GC&SF sur, 150 ft from s and e lines. J. H. S. Bonner et al, Wichita Falls, Cole, 153, 27, J. McCool sur, 35 ft n of No. 26. Mogren & Anderson, Electra, E. E. Goetze, 111, 15, SA&MG sur No. 2, 450 ft from w and 500 ft from s line. Justin Oil Corp., Wichita Falls, S. Mitchell, 70, 11, B 7, B. Castleman sur, 300 ft s of No. 6. Ascot Co., Wichita Falls, W. W. Overby, 40, 4, J. M. Sharpe sur, 450 ft from s and 824 ft from e line. Justin Oil Corp., Wichita Falls, S. Mitchell, 70, 9, P. Castleman sur, 50 ft n of No. 8; 10, 50 ft w of No. 5. Harry Hines, Wichita Falls, Waggoner, 100, 2, M. A. Willis ur, 1050 ft from w and 1322 ft from n line. T. L. Burnett, 25, A3, G. R. Meade sur, 150 ft from n and e lines sw¼ of se¼. Golding & Cochran, Wichita Falls, J. Waggoner M. 80, 1, S 23, H. George sur, 150 ft from e and 450 ft from w line.

WILBARGER COUNTY—Lewis Prod. Co., 3416 St. John's Drive, Dallas, W. T. Waggoner, 80, 9, S 18, B 4, H&TC sur, 150 ft from n and e lines. C. P. Burton et al, Wichita Falls, W. T. Waggoner L80, L1, S 11, B 4, H&TC sur, 150 ft from s and e lines of S 11. Needham & Thrasher, Electra, W. T. Waggoner, 40, 1, S9, B 4, H&TC sur, 150 ft from n and w lines. Phillips Pet. Corp., Bartlesville, W. T. Waggoner U40, 2, S 44, B 4, H&TC sur, 200 ft from w and 467 ft from s line of ne¼ of nw¼ of Sec. 44. W. T. Waggoner SS 40, 4, S 43, B 4, H&TC sur, 300 ft from s and w lines of sw ¼ of se¼ of Sec. 43. J. B. Baker, Jr., Wichita Falls, W. T. Waggoner, 80, H1, S 22, B 4, H&TC sur, 150 ft from s and w lines. Fain-McGaha Oil Corp., Waggoner Bldg., Wichita Falls, W. T. Waggoner, L 200, 10, S 31, B 4, H&TV sur, 205 ft from s and 655 ft from e line.

WEBB COUNTY—Aviator Gas Co., Miranda, A. M. Bruni, 40, 2, S 2083, 1170 ft from e and 600 ft from s line of Sec. O. W. Killam, Laredo, A. M. Bruni, 200, 8, S 3, M. Arispe sur, 1115 ft from ne and 945 ft from se line.

WASHINGTON COUNTY—A. W. Kollatt, La Grange, Carter, 50, 1, S. F. Austin sur, 650 ft from nw and 150 ft from ne line. E. C. Brain et al, Humble, J. S. Smith, 416, 1, A. Lawrence sur, 1445 ft from e and 701 ft from s line.

YOUNG COUNTY—Sun Oil Co., Dallas, M. E. Rogers, 44, 1, 229 TE&L sur, 150 ft from n and w lines. D. L. Wolf, Olney, S. R. Jeffery, 20, 1, 58 TE&L sur, 186 ft from n and 150 ft from e line. S. F. Krimbrell, Ardmore, Okla., J. R. Dyer, 160, 2, W. Strand sur, 450 ft from w and 150 ft from s line. C. A. Pennell, Loving, R. J. Calvin, 25, 5, A. Rohus sur, 525 ft w of No. 2.

Sunset

Taft, Calif.—Signal Oil and Gas Company's No. 2, Section 8-11-23, continues to be the sensation of the Sunset area, still flowing more than 1500 barrels of clean oil from 3240 feet. Located in a semi-wildcat district, where only a little shallow production had been developed, the well opened up a very promising area. The discovery fills in a gap in the "foot" of the Sunset area and undoubtedly proves a deeper sand productive over several hundred acres, and possibly much more. The oil is 29 gravity and showed an extremely low cut. Several new locations have been made as a direct result of the discovery.

COMPLETIONS

(Continued from page 86)

EAST CENTRAL TEXAS

NAVARRO COUNTY—

Perryman-Hicks & Dearing, Prince 1	*		3205

TEXAS PANHANDLE

CARSON COUNTY—

Skelly Oil Co., C. P. Ledrick 1	¶20		2700

GRAY COUNTY—

Danciger O. & R. Co. et al, M. A. Shaw 1	¶9-300		2678
Parton & Holt, A. E. Gethings 1	¶5		3170
Shell Pet. Corp., R. S. McConnell 2	85		3285
Southern Pet. Explo. Co., L. C. McConnell 3	310		3273
The Texas Co., E. Key 1	155		2750
H. M. Davis 6	85		3200
Wilcox O. & G. Co., Coombs-Worley 4	400		2960

WHEELER COUNTY—

Angus et al, D. L. Morgan 2	¶8¼		1933
Edwards et al R. Griswold 1	¶50		1890

CENTRAL WEST TEXAS

BROWN COUNTY—

M. T. Anderson et al, Leatherwood 8	20		1175
Christy-Breeding et al, Jones 1	¶¼		1203
G. L. Gray et al, Evans 1	*		2004
Hart & Cole, Inc., Dixon 1	*		375
Humble O. & R. Co., Byler 11	15		1317
Hodnett 21-A	*		1218
L. A. Warren et al, Duff 1	50		1164

CALLAHAN COUNTY—

Barnhart et al, McFarland 1	*		1070
Drew Beams et al, Snyder 1	5		1041

COLEMAN COUNTY—

Barnsdall Oil Co., Tholl 1	*		2250
E. L. Chapman et al, Fuller 2	*		1995
Cunningham et al, Jennings 12-C	¶5½		1168
Harry Gwinupp et al, Gates 1	*		1680
E. J. Hunter et al, Baugh 1	*		1220
Jackson & Veihl et al, Davis 1	*		3330
Roth & Faurot, Cox 1	*		1835
Gholson 1	*		3300

EASTLAND COUNTY—

Belva Oil Co., Good 6	15		3815
Hoffman & Page, Butler 1	*		1343
McLester Oil Co., Thorp 6	25		3740
States Oil Corp., Calvert 8	25		1905
Taylor et al, Marshall 1	*		3400
Teatsorth et al, Harbin 1	15		1965

SHACKELFORD COUNTY—

Crabb & McNeil, Matthews 2	*		1211
Engle Bros. et al, Matthews 3-A	260		1152
Gilman & McMurray, Matthews 1	*		1044
Grisham-Hunter Corp., Davis 1	*		1710
Davis 1-A	*		1752
Loggie & Arndt, Matthews 1	*		1115
Midland Oil Co., Davis 1	10		1640
Moncrief et al, Gustafson 1	*		2016
Petroleum Prod. Co., Davis 3	40		1647
Tannehill et al, Hill 2	*		895
Whitney 1	*		753
Texas Consolidated Oil Co., Jackson 1	*		1003

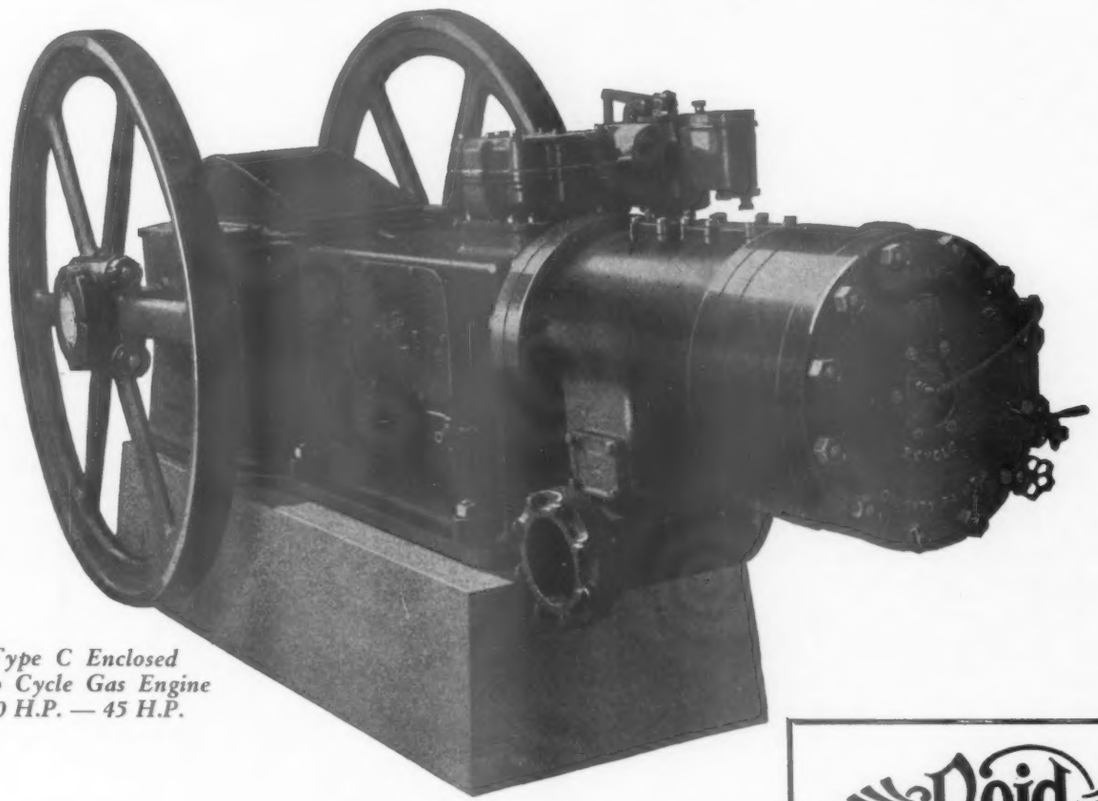
STEPHENS COUNTY—

C. M. Root et al, Hitson 2	*		3295
Texas Fidelity Oil Corp., Bargsley 1	*		2050

Rincon

Ventura, Calif.—The Rincon field is gradually passing into the inactive class, principally because it has been difficult to drill profitably and has shown nothing sensational in either the upper or lower zones. Production has declined to 3300 barrels from 25 wells and looks somewhat lower unless some of the few drilling wells come in with unexpected yields. The extremely deep tests have shown no improvement and may not be drilled much deeper. Richfield Oil Company is fishing in Hobson-Fee 1 at 7285 feet. Petroleum Exploration Company is drilling at 6460 feet in Hawkins 1, with the formation showing brown shale.

You Can Always Depend on Reid Performance



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In every phase of performance, the Type C Enclosed Two Cycle Gas Engine has surpassed all promises made for it. No matter how adverse the conditions, its ability has been proven with every installation. Its reliable and economical operation, smooth running with abundant power at all speeds, and the exclusive mechanical refinements developed by Reid engineers are factors that have had an important part in the successful performance of this engine.

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WILDCATS FROM ALL SECTIONS

SOUTH LOUISIANA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
ST. LANDRY PARISH—		
The Texas Co.'s Botany Bay Fee 1.	*	4131
ST. MARTIN PARISH—		
Rycade Oil Corp.'s Bayou Bouillon Fee 6	*	3702

ASCENSION PARISH—Gulf's Belle Helene Sugar Co. 1, Darrow, dr 4410 ft. Gulf's United Lands Co. 14, Darrow, ru. Triumph Oil Corp.'s Lacey 2, 3 mi se Sorrento townsite, depth 2100 ft. Big Dome Drlg. & Dev. Co.'s & J. S. Kimbrough's Rearwood 1, Darrow, sd 1055 ft. Baton Rouge Pet. Co.'s Liotta 1, sd 1000 ft.

CALCASIEU PARISH — Gulf's Ind. Lbr. Co. 13, Starks, dr 3504 ft; Lutcher Moore 9, drk; Lutcher Moore 15, Starks, dr 3810 ft; Lutcher Moore 14, Starks, dr 4104 ft. The Texas Co.'s Moss 1, sect. 8-10s-9w, drk. Union Sulphur Co.'s Fee 736, Sulphur, pulling strainer after testing sw and will deepen from 5100 ft; Fee 742, Sulphur, top oil sand 2877 ft, dr 2884 ft; Fee 743, Sulphur, abn in salt 2500 ft. J. W. Watson's La. Land Co. 1, Sulphur dist, abn 4200 ft sandy lime. J. O. Davis' Mimms 1, Lake Charles, dr 700 ft gbo.

CAMERON PARISH — Pure Oil Co.'s Yount-Lee 7, Sweet Lake, td 4781 ft; Yount-drk; Lutcher Moore 15, Starks, dr 3810 ft; showing with 2.3 ft of oil sand;. The Texas Co.'s Valery 6, East Hackberry, tested sw at 3878 ft and will deepen. Rycade Oil Corp.-Humble's Gulf Land 1, Hackberry, dr 3952 ft; Gulf Land 2, dr 3012 ft. Cameron Oil Co.-Rycade's Duhon 4, Hackberry, dr 827 ft; Kaough 1, bldg std rig. Cherokee Oil Co.'s Duhon 1, E. Hackberry, cement setting 3527 ft. Moon Oil Co.'s Sanner 3, Hackberry, set 2 jts screen 3229 ft, oil rose 1800 ft, running tubing. Sun Oil Co.'s Vincent 2, Hackberry, 1800 ft oil in hole at 3417 ft. P.B. to 3165 ft and set 47 ft of 4½-in screen, will pump. Rex Pet. Corp.'s Noble 1, Hackberry, dr 3210 ft gbo. Pure Oil Co.'s Duhon 1, Hackberry, flwd 300 bbls 23.5 gravity by heads thru 2½-in tubing, 3177 ft; Duhon 2, flw 200 bbls 23.4 grav thru 2½-in tubing 3132 ft. Sunshine Oil Co.'s Benoit 1, Hackberry, set 10-in cas at 1059 ft. Shell Pet. Corp.'s Watkins 6, Black Bayou, dr 4436 ft hard sand; Watkins 9, set 9⅝-in cas at 965 ft, oil showing in shale.

IBERIA PARISH — The Texas Co.'s Vermilion Bay A-3, dr 4553 ft lime. Gulf's State Z-9, Loreauville, lcn. Moresi Co. et al's 1, dr 3206 ft.

IBERVILLE PARISH — Shell's Wilbert 3, White Castle, dr 4066 ft hard sand and lime. Standard of La.'s Wilbert 2, Bayou Blue, set 60 ft of 18-in cas and cemented; Wilbert 3, dredged canal; Schwing 1, dr 3781 ft; Schwing 2, bldg drk; Schwing 3, dredged canal; Schwing 4, lcn; Schwing 5, lcn.

JEFFERSON DAVIS PARISH — Vacuum's Earl 1, Roanoke, sd 5685 ft; DeVilbiss 1, Roanoke, sd 5903 ft.

LA FOURCHE PARISH—Gulf's Stark 10, dr 1320 ft cap rock; Stark 11, dr 170 ft gummy shale. Union Sulphur Co.'s Dibert-Stark-Brown 1, Thibodaux, no report; Dibert-Stark-Brown 4, no report.

PLAQUEMINES PARISH—Gulf's Morris & Rose 1, Spanish Pass, lcn. The Texas Co.'s Garden Island Bay 1, 15 mi se Venice, ru.

POINTE COUPEE PARISH—Miller et al's Kornbacker 1, sd 1925 ft. Fruen et al's La Cour 1, sd.

ST. LANDRY PARISH—The Texas Co.'s Botney Bay Fee 1, Port Barre, pulling pipe to abn at 4131 ft. Elbof Explorations, Inc.'s Henry Smith 1, dr 3485 ft gbo.

ST. MARTIN PARISH—Rycade's State 3, Bayou Bouillon, dr pipe stuck 3315 ft; Bayou Bouillon Fee 6, abn 3702 ft, salt; Bayou Bouillon Fee 7, dr 1450 ft gbo. Ohio Oil Co.'s Martin et al 3, Hager dome, standing 4490 ft; Burke 3, lcn. The Texas Co.'s St. Martin Land Co. 1, Hager dome, set 1233 ft sur cas. St. Martin Land Co. Fee 2, capping piling.

ST. MARY PARISH—J. McMurrey et al's Le Blue 1, Charenton, sd 3100 ft.

TANGIPAHOA PARISH — Tanli Oil Co.'s Weinberger 2, sd 4050 ft. Joan Dev. Co.'s Lake Superior Piling Co. 1, dr 1860 ft gbo and shale. The Texas Co.'s Lake Barre 1, dr 1280 ft shale; Lake Pelto B-1, bldg drk; Four Isle Bayou B-1, bldg drk; Timbailer Bay A-1, bldg drk; Bay Coon Road B-1, bldg drk; Dog Lake Bayou A-1, recementing casing 137 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

TEXAS GULF COAST

Completions

Company, Well and Location	Initial Production Bbls.	Depth
FORT BEND COUNTY—		
Sun Co.'s Rogers 2	*	4489
REFUGIO COUNTY—		
Magnolia's Glenwinkle 1	*	3350

AUSTIN COUNTY—Raccoon Bend: Humble O. & G. Co. and Valley Oil Corporation's Snell 1, lcn; Washington B-1, ru; E. B. Wilson 4, dr 974 ft hard sand; Kalieszewski B-1, ru; Mueller 1, dr 1846 ft sandy shale; R. Dietrich 2, dr 3308 ft; Hardy 3, dr 3205 ft sandy shale; Hardy 4, lcn; Buchanan 1, dr 2754 ft shale; Washington A-2, dr 1875 ft sandy lime; Sarah Helmuth 1, ru; Urban 2, standing 2327 ft; Ollie Wilson 2, dr 572 ft hard sand; Urban 3, cement setting 3294 ft; R. Thompson 3, dr 3021 ft sand; Sanders 2, dr 2792 ft sand; E. Grawunder D-1, dr 2807 ft sandy shale. F. & M. Drilling Co.'s Lewis 1, w of Raccoon Bend, dr 2367 ft shale and bldrs.

BRAZORIA COUNTY — Shell Pet. Corp.'s Allen 4, Allen dome, oil show 5154 ft. Humphreys Corp.'s Bryan 1, Bryan Heights, dr 3233 ft shale. Empire O. & R. Co.'s Brock 3, Stratton Ridge, bldg drk.

CALHOUN COUNTY — Baker & Thompson's Thomas 1, 10 mi w Pt. Lavaca, sd 2730 ft.

CHAMBERS COUNTY—Barbers Hill: Mills Bennett Prod. Co.'s Smith 2, dr 4455 ft sandy lime; E. W. Barber 1, dr 3640 ft gbo. Humphreys Corp.'s Kirby B-6, no report; Tarbutton 1, dr 2153 ft lime rock; Kirby A-7, coring sand 1855 ft. Sun's Chambers Co. Agri. Ass'n 1, dr 5260 ft sand, showing oil; Chambers Co. Agri. Ass'n 2. Cedar Bayou Oil Co.'s Fitzgerald 1. Carpenter & Eunice's Feldman 1, dr 3087 ft gbo. Tolbert et al's Ilfrey 1, dr 3618 ft gbo and lime.

COLORADO COUNTY — The Texas Co.'s Kinkler 1, Cat Springs, dr 956 ft sandy shale. Shell's Neuendorff 1, 1 mi se Bernado, dr 1327 ft shale. Humble's Binkley 1, Altair, dr 1510 ft shale. Merrett et al's Zverck 1, 2 mi e Ellinger, sd 320 ft.

FAYETTE COUNTY—Moore et al's Kerr 1, Muldoon, sd 2078 ft. National Oil Co.'s Melcher 1, Plum, dr 3030 ft shale.

FORT BEND COUNTY—Sun Oil Co.'s H. R. Farmer 4, Boling, drk; Rodgers 2, Boling, abn 4489 ft shale. The Texas Co.'s Pleasants 1, Boling, dr 3580 ft water sand. Gulf's Trone 11, Long Point, no report. Boling Dome Oil Corp.'s Armstrong 1, Boling, dr 5200 ft shale. Sugarland: Humble's Brazos Farms 3, flwd 1200 bbls, 3568 ft; Brazos Farms 4, flwd 228 bbls oil and wash water 3441 ft, not completed; Brazos Farms 5, set 6⅝-in at 3400 ft, td 3438 ft; Brazos Farms 6, ru; Sugarland Industries 7, dr 1588 ft sand and bldrs; Sugarland Industries 6, flwd 800 bbls 3733 ft; C. C. Nelson 2, dr 3487 ft sandy shale; Camp 3, dr 2876 ft sandy shale and lime; Camp 4, lcn; Deatherage 1, drk. South Texas Exp. Co.'s Hartfield 1, Needville, flwd sw 6889 ft.

GALVESTON COUNTY—Long et al's Irvin & Bishop 1, 2 mi s Dickinson, sd 4322 ft.

GOLIAD COUNTY — Booth & McCarson's Murry 1, Goliad townsite, sd 1460 ft. Humble's Rietz 1, 3 mi n Goliad.

HARDIN COUNTY—Gaddy Oil Co.'s Sternenberg 2, 4 mi nw Kountze. Guedry Drly. Co.'s Guedry 1, 3 mi s Batson, drk.

HARRIS COUNTY—Torsen et al's Stewart 1, 4 mi sw Genoa, sd 691 ft. Hunt et al's Lobit 1, 4 mi n Goose Creek, sd 2145 ft. Humble's Simms-Smith 75, Goose Creek, set 9⅝-in cas 4235 ft, td 4271 ft; W. H. Irvin 1, Mykawa, dr 679 ft gbo; Warren 5, Hockley, dr 3773 ft shale and lime; Williams 1, Humble, dr 2937 ft gbo. Paxton et al's Brubacker 1, 1 mi ne Clodine, sd. Praxton & Pundt's Brown 1, set 10-in at 900 ft. The Texas Co.'s House 22, Humble, dr 5035 ft hard sand; Stevenson 39, Humble, dr 4850 ft hard sand.

JACKSON COUNTY — The Texas Co.'s Moore 1, Edna, dr 3600 ft sandstone. Wright Bros.' Drushell 8, Edna, drk; Classen 2, Edna, sd 3945 ft.

JEFFERSON COUNTY — Deep Test Oil Corp.'s McFaddin 1, 6000 ft e Spindle Top, sd 3500 ft. J. W. Farhar et al's Rohwedder 1, 5 mi ne Beaumont, dr 2965 ft gbo. Beaumont Oil Co.'s Tyrell 1, 2 mi w Brooks, drk. The Texas Co.'s Pipkin 1, Big Hill, dr 5770 ft shale. Gulf's Thomas 11, Fannett, dr 5770 ft shale; Bordages A-7, Fannett, dr 4650 ft; Bordages A-6, sd 5500 ft, td 5604 ft. Yount-Lee Oil Co.'s Nona Mills 1, 5 mi s Beaumont, dr 4824 ft. Shell's Heisig 1, 2 mi n Hampshire, laying 4-in fuel line and ru.

LIBERTY COUNTY — The Texas Co.'s Davis 2, Davis Hill, dr 3940 ft shale; Pickett 3, n end S. Liberty, dr 4630 ft shale; Green 5, n end S. Liberty, dr 2080 ft sandy shale. Humble's Sterling 4, Moss Bluff, dr 2974 ft shale and lime. Union Explo. Co.'s Esperson 2, 2 mi s Sheeks, sand 4850 ft. Republic Prod. Co.'s Mysilvec 1, 2 mi s Hardin, ru.

MATAGORDA COUNTY—Rycade-Humble's Kuntze A-6, Markham, set 9-in at 3745 ft. West Prod. Co.'s Meyers 1, Markham, dr 3050 ft rock.

ORANGE COUNTY — Veteran Oil Co.'s Reed 1, 2 mi se Orange field, sd 2890 ft. The Texas Co.'s Kuhn 1, 4 mi e Spindle Top, dr 2550 ft shale and lime.

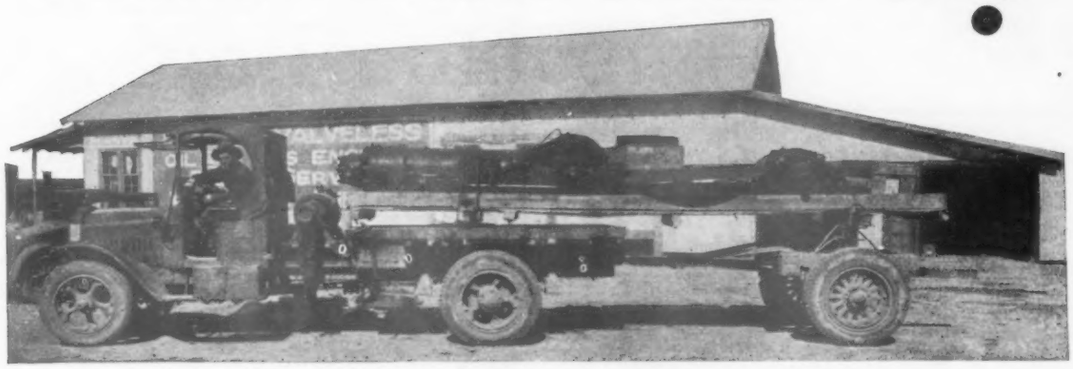
REFUGIO COUNTY — Magnolia's Glenewinkle 1, nw of Refugio prod., abn 3350 ft. Houston Gulf Gas Co.'s Fannie Heard 7, Refugio, prep to bail oil sn 3679 ft; Lambert 8, dr 3202 sticky shale; O'Brien 4, dr 3499 ft gbo; Rose Lambert 2, prep to dr in at 3646 ft; Rogers 3, bailing 4672 ft; Holmes Heard 4, spd; Shelly 7, dr 3147 ft sand; Rooke 2, set 150 ft surface pipe. Saxet Oil Co.'s Clint Heard 7, Refugio, rebldg wrecked drk.

WALLER COUNTY — Dixie O. & G. Co.'s Brazos River State 1, San Felipe, sd 500 ft. The Texas Co.'s Young 1, 3 mi e Raccoon Bend, dr 2240 ft shale.

WASHINGTON COUNTY—Sun Oil Co.'s Schlottman 1, Clay Creek, dr 2260 ft gbo; Mrs. J. Grote 2, dr 2578 ft, tested sw; G. F. Grote 4, lcn; G. F. Grote 7, lcn; Schirmer 2, dr 2225 ft shale. Davis et al's Seward 1, ½ mi n Independence, sd 2300 ft in lime. Thomas et al's Giddings 1, 4 mi e Brenham, sd 500 ft. W. D. Anderson's Rubenstein 1, 4 mi se Gay Hill, sd 340 ft.

WHARTON COUNTY — Hearte Oil Co.'s Brown 1, 3 mi s El Campo, lcn.

All Aboard!



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One truck—that's all. And no overloading or straining of the truck.
The Franklin Engines are not bulky. Good material and scientific design give the Franklin Engine greater strength without useless weightiness.
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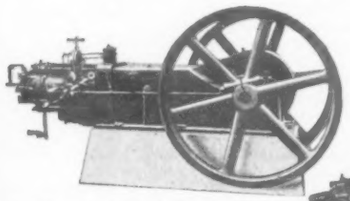
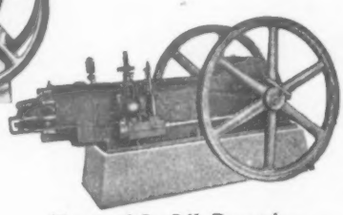


Type OF Oil Drilling Engine



Type AO Oil Pumping Engine

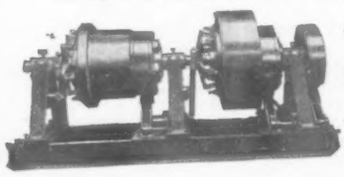
Yet, the best part of the Franklin is that you've got something when you get it set up. The Franklin Oil Drilling Engine has a fine record of performance. They show power, speed and flexibility.
The Franklin pumping engine displays a sturdiness that has gained many friends on the oil field. These pumpers come in 30, 40, 50 and 75 horsepower.

The 2 SD Drilling Clutch

Two speeds in either forward or reverse—all bearings enclosed —run in oil or grease.

All brake band and clutch discs adjusted without stopping the engine.

All brackets, bell cranks, toggle arms, brake cranks, levers, driving discs, spiders and sliding sleeves made of steel.



All similar parts of clutch interchangeable.

Belt driven — no shaft breakage.

The 2 SD Clutch will pull the largest bailer wthout faltering.

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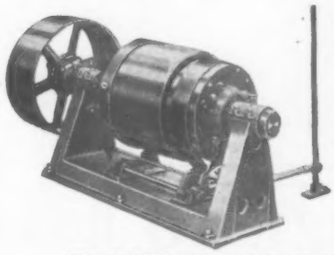

Here is a clutch that will operate satisfactorily and smoothly for cable tool drilling or for pumping operations. The BG type has one speed forward and reverse. It is much the same construction as the 2 SD clutch.

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OKLAHOMA

GRANT COUNTY—T 28n, R 3w, Sec. 24, Lario O&G Co. et al's Conneil 1, nwc, sd 3875 ft.

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair's Share 1, c ne sw, rig.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent & Nat'l Union's McNeil 1, nwc ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil Co.'s Cooper 1, nwc se, sd 4182 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu Vi Bar et al's 1, sec sw, 4733 ft exhausting water.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden's Vollner 2, nec se ne sw, lost tools 5640 ft, sd.

WOODWARD COUNTY—T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, sec, sd 1500 ft.

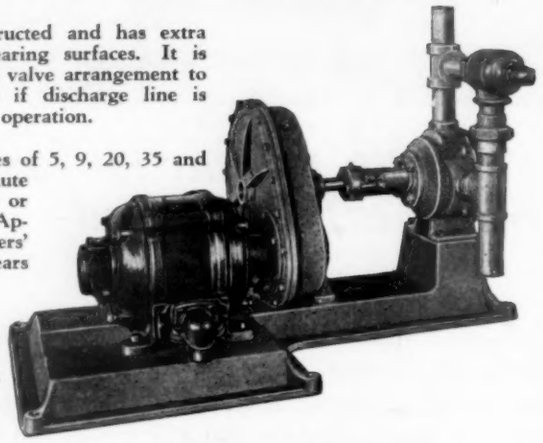
WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller et al's Capenhaver 1, nwc, spudded and sd.

For Hazardous Liquids Use This

VIKING PUMP

It is especially constructed and has extra long packing and bearing surfaces. It is equipped with a relief valve arrangement to guard against danger if discharge line is closed with pump in operation.

It is made in capacities of 5, 9, 20, 35 and 90 gallons per minute and furnished in belt or motor driven types. Approved by Underwriters' Laboratories and bears their label.



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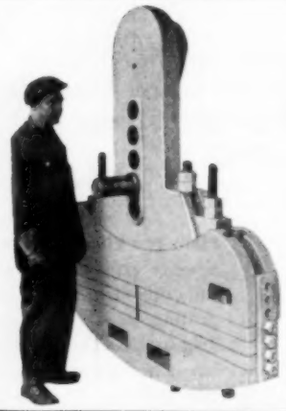

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Crank Type Equalizer—The balance for Deep Well Pumping

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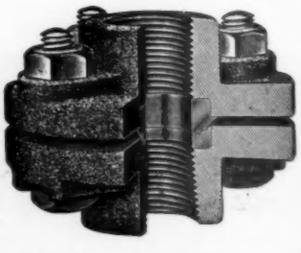


ALFALFA COUNTY—T 24n, R 11w, Sec. 14, Washoma Oil Co.'s Acre 1, swc ne, rig.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, sec nw, co and ur 6-inch csg 4755 ft.

WOODWARD COUNTY—T 23n, R 20w, Sec. 9, Billy Oil Co.'s Wyatt 1, c se, sand 3200-40 ft, hfw, td 3612 ft, sd. T 23n, R 17w, Sec. 2, John Farrand's Belva 2, csl sw se, sd 400 ft, fsh job.

MAJOR COUNTY—T 23n, R 16w, Sec. 4, Wilson et al's Creech 1, nec sw, sd 510 ft.

WOODWARD COUNTY—T 21n, R 21w, Sec. 25, Sharon's Elmore 1, swc, sd 3025 ft. T 21n, R 19w, Sec. 15, Burgoyne Bros.' 1, swc se ne, sd 1950 ft.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keler et al's Horton 1, c ne ne, spudded and sd.

GARFIELD COUNTY—T 20n, R 4w, Sec. 9, Marland's Looman 1, nec se, sd 5738 ft. Sec. 12, Marland's Miller 1, swc, sd 4586 ft, hfw.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, C. E. Love et al's Phillips 1, c nw sw, rigging up to spud.

DEWEY COUNTY—T 18n, R 15w, Sec. 9, Huckelby & McCoy's Perfect 1, nec, sd 4500 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33 Healy & Consolidated Drlg. Co.'s Quier 1, sec sw, co to run pipe 3970 ft.

KINGFISHER COUNTY — T 16n, R 6w, Sec. 27, Crawford & McKenna's Sturgeon 1, nec sw, sd 4895 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears' Piatt 1, swc ne, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 3w, Sec. 18, Slick & Bailey's Lufkin 1, c ne se, ur 5-inch at 5120 ft.

CIMARRON COUNTY—T 5n, R 5, ECM., Sec. 22, Magnolia's School Land 1, c se ne, dr 2015 ft.

TEXAS COUNTY—T 1n, R 15, ECM., Sec. 25, Skaer et al's Hitch 1, nwc, rigged up and sd.

OSAGE COUNTY—T 29n, R 8e, Sec. 30, Superior Oil Corp.'s 1, nwc ne, dry and aband. 2528 ft. T 26n, R 7e, Sec. 13, Wrightsman's 1, sec nw, lcn.

PAWNEE COUNTY—T 22n, R 5e, Sec. 33, Washoma O&G Co.'s Buffalo 1, sec nw, td 3812 ft pb to 3134-46 ft co and testing.

OSAGE COUNTY—T 22n, R 8e, Sec. 8, Harry McGill's 1, swc se, show gas at 2335-49 ft, sd 3000 ft.

LINCOLN COUNTY—T 16n, R 4e, Sec. 15, J. V. Bailey et al's House 1, c ne se, dr 3770 ft. T 16n, R 5e, Sec. 2, L. G. Wheeler Mote, et al's Wolfe 1, nwc ne sw, dr 3340 ft. T 16n, R 6e, Sec. 19, Flynn & Morgan's Finely 1, swc, sd 720 ft. T 12n, R 3e, Sec. 29, Phillips' Robertson 1, sec nw, rig.

McINTOSH COUNTY—T 12n, R 18e, Sec. 15, A. B. Wolfe et al's Beck 1, nwc se, spudded and sd.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, swc new se, Wilcox 5443-66 ft, small show oil 5446 ft, drilling but making no hole.

HASKELL COUNTY—T 9n, R 16e, Sec. 10, Marion Oil Co.'s Sanders 1, nwc ne sw, sd 1800 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O&G Co.'s Murry 1, swc, 1½M gas at 2518-30 ft, dr 3530 ft.

OKLAHOMA COUNTY—T 12n, R 2w, Sec. 30, Magnolia's Noble 1, nwc sw sw, dr 3580 ft. T 12n, R 3w, Sec. 15, Cromwell's Thompson 1, swc ne ne, sd 7182 ft.

OKFUSKEE COUNTY—T 11n, R 7e, Sec. 21, Slick's Wolfe 1, sec ne se, dr 4500 ft.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 16, McCulloch et al's Hollis 1, sec nw, dr 4290 ft. T 10n, R 7e, Sec. 5, Marland et al's Strothers 1, nwc se ne, Wilcox 4884-4916 ft, second Wilcox 4925-4946 ft, hfw, pb to 4610 ft. T 8n, R 8e, Sec. 4, CcCulloch's McGilbray 1, swc ne, ts 3285 ft, td 3410 ft hfw, fsh.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner Oil Co.'s Vandeveer 1, nec nw sw, sd 3120 ft.

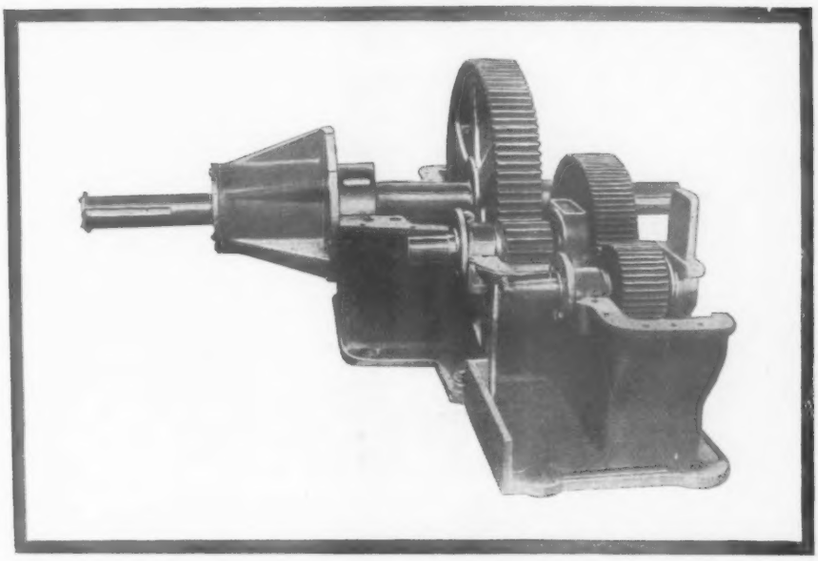
POTTAWATOMIE COUNTY—T 6n, R 4e, Sec. 19, Rush & Baughn's Lester 1, sec ne ne, flowed 170 bbls 30 minutes, 3650-3684 ft.

SEMINOLE COUNTY—T 6n, R 5e, Sec. 11, McCulloch's Powell 1, nwc, rur, sd. T 6n, R 7e, Sec. 34, Magnolia's Harjo 1, nec se, dr 3020 ft.

PONTOTOC COUNTY—T 5n, R 4e, Sec. 36, Denver P&R Corp.'s Roberts 1, sec ne ne, dr 2710 ft, 2000 ft water.

HUGHES COUNTY—T 5n, R 9e, Sec. 17,

Five Years....
No Replacements



An exposed view of a Westinghouse-Nuttall double reduction oil well unit. All gears and pinions are heat-treated by the BP process.

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IN the more than five years since Westinghouse-Nuttall oil well gear units were first placed in service, there has never been a necessity for replacing a gear or pinion on a single unit because of breakage or excess wear.

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Twin-motor Drilling Equipment
Two-speed Pumping Equipment

Say you saw it in The OIL WEEKLY

E. W. Whitney's Huddleston 1, sec sw, dr 3630 ft, hfw.

PONTOTOC COUNTY—T 4n, R 8e, Sec. 23, Independent's Hampton 1, nec, dr 1685 ft.

PITTSBURG COUNTY—T 4n, R 12e, Sec. 32, Kerr & Key's Tall 1, c nw nw, dr 1800 ft.

COAL COUNTY—T 2n, R 8e, Sec. 6, J. S. Cosden's Richardson 1, nwc ne ne, dr 1460 ft. T 1n, R 9e, Sec. 24, Galbreath et al's Jones 1, swc se, fsh 3350 ft. T 1n, R 11e, Sec. 10, I. T. I. O.'s Cook 1a, sec sw nw, dr 6880 ft.

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt's Wellman 1, c se, sd 100 ft.

ROGER MILLS COUNTY—T 11n, R 26w, Sec. 4, L. C. Hivick's Davis 1, c nw ne, sd 700 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey's Robinson 1, c ne nw, spudded and sd.

BECKHAM COUNTY—T 8n, R 25w, Sec. 30, Benedum & Trees Oil Co.'s Rogers 1, swc, sd 410 ft. T 8n, R 22w, Sec. 20, Carson et al's Denby 1, swc se ne, dr 1300 ft. T 8n, R 21w, Sec. 33, Day Oil Co.'s Ault 1, c nw nw, fsh 1515 ft.

KIOWA COUNTY—T 7n, R 17w, Sec. 34, G. B. Cloyes' Brazil 1, swc ne, dr 1340 ft.

CADDO COUNTY—T 6n, R 10w, Sec. 22, English Drlg. Co.'s Jacobs 2, nwc se, abn 300 ft.

GRADY COUNTY—T 4n, R 5w, Sec. 28, Wichoma Oil Corp.'s Morrison 1, nec, lcn.

JACKSON COUNTY—T 1n, R 20w, Sec. 4, Houseman et al's Northington 1, nec, sd 2020 ft.

KIOWA COUNTY—T 1n, R 17w, Sec. 13, Allen Bros.' Howell 1, nwc se, dr 660 ft.

STEPHENS COUNTY—T 1n, R 7w, Sec. 2, Stahl & Burris' Jefferson 1, sec ne nw, sd 3012 ft.

COTTON COUNTY—T 1s, R 11w, Sec. 34, Shasta Oil Co.'s Indian 1, nec, sd 2500 ft.

KIOWA COUNTY— T 2s, R 16w, Sec. 6, Landfair's 1, sec sw se, sd 2535 ft.

COTTON COUNTY—T 2s, R 12w, Sec. 31, Pearce & Brown's Heitzler 1, sd 2716 ft. T 3s, R 12w, Sec. 11, Consolidated Oil Co.'s Indian 1, nec sw, dr 250 ft. T 3s, R 10w, Sec. 11, E. J. Stump's Jones 1, nwc ne, dr 1510 ft.

STEPHENS COUNTY—T 3s, R 9w, Sec. 22, Pelwin Oil Co.'s King 1, swc se, rigging up rotary. T 3s, R 8w, Sec. 26, E. J. Stump's Simmons 1, swc, abn 3003 ft.

COTTON COUNTY—T 4s, R 9w, Sec. 31, Amerada's Delana 1, sec nw nw, dr 1250 ft.

JEFFERSON COUNTY—T 5s, R 7w, Sec. 35, Amerada et al's Major 1, sec nw nw, lcn.

McCLAIN COUNTY—T 5n, R 2e, Sec. 31, Tidal et al's Haberson 1, c se se, dr 3100 ft. T 5n, R 5e, Sec. 22, Mid-Continent Pet. Corp.'s James 1, sec, hfw, 3308 ft, sd.

GARVIN COUNTY—T 3n, R 3w, Sec. 36, Gilcrease-Douglas Oil Co.'s Barnett 1, sec nw ne, dr 1930 ft.

MURRAY COUNTY—T 1n, R 2e, Sec. 17, Revels & McGee's Wolfe 1, nwc, sd 2100 ft.

JOHNSTON COUNTY—T 1s, R 7e, Sec. 29, Smith-Kinsley Lane 1, sec nw, sd 1530 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Tex-Okla Drlg. Co.'s Anderson 1, sec ne se, sd 420 ft.

BRYAN COUNTY—T 9s, R 9e, Sec. 36, W. G. Endicott et al's Craig 1, c nw ne, 1235 ft 10-inch csg.

NORTHERN CALIFORNIA

Completions

BUTTONWILLOW—
Richfield Oil Co.'s Kerwin 1, 21-26-22 . . . . . * 5210

McKITTRICK—
The Texas Co.'s Aldridge 1, 4-30-22 * 5015

ELWOOD—
Petroleum Securities Co.'s Storke 1 * 5560

KERN COUNTY

BELRIDGE—H. J. Bardwell's 1, 24-28-20, plugging back from 1000 ft. Elmer Oil Co.'s 1, 15-30-30, dr gray sand 1378 ft.

BUTTONWILLOW—Richfield's Redding 1, 36-27-23, 11¾-inch casing cmt 4400 ft. Southern California Gas Co.'s Wisnom 1, 27-28-23, laying lines.

EDISON — Symark Oil Co.'s 1, 24-29-29, changing to rotary, td 1200 ft.

GOULD HILLS—Bomke and Ball's Larson 1, 19-29-20, dr brown shale 2410 ft. Elmer Oil Co.'s 1, 2-29-20, rigging up rotary, td 1850 ft. Ozena Oil Co.'s 1, flowing oil and water, td 2930 ft.

KERN RIVER—Richfield's Boston 1, 20-28-28, dr shale 3160 ft. F. M. Sayre's 1, 8-28-28, dr shale 1622 ft.

LERDO—Shell's An.-1, 5-29-27, rigging up.

McFARLAND—General Pet. Corp.'s KCL-1, 25-26-25, rigging rotary.

McKITTRICK—Ohio Oil Carver's Wisecarver 1, 9-31-22, new lcn. Ventura-Pacific Oil Co.'s 1, 18-29-22, dr shale 3400 ft.

ROSEDALE—Elmer Oil Co.'s 1, 33-29-26, dr blue shale 2122 ft.

SHALE HILLS—Day Oil Co.'s 1, 1-27-18, will deepen from 600 ft. William Gilbert's 1, 35-26-18, ready to deepen, td 750 ft.

SAN EMIDIO—Union's KCL-2, 5-10-21, dr sand 2505 ft.

SANTA BARBARA COUNTY

BUELL CANYON—Union's Buell 1, new lcn.

CARPENTERIA—Continental's Franklin 1, co 4100 ft; Bailard Community 1, new rig; Myrtle Bailard 1, new lcn; Kitty Bailard 1, new lcn.

GOLETA—Elwood Cons. Oil Co.'s Rekar 1, 8-4-29, sd 3310 ft. F. A. Anderson's 1, dr brown shale 3015 ft. General Petroleum's Moore 1, 21-4-28, dr shale 500 ft. Southwest Producing Co.'s Pickett 1, 2-4-28, installing new rotary, td 2920 ft.

ORELLA—Shell's Rutherford 1, 36-5-31, dr hard sand 2940 ft.

POINT ARQUELLO—Standard's Sudden 1, lcn.

POINT CONCEPCION—Standard's Garber 1, dr hard sand 1828 ft.

SANTA BARBARA—Exeter Oil Co.'s Duncan Ranch1, dr 3080 ft. Padre Oil Co.'s Dos Pueblos 1, 8-4-29, dr sandy shale 2166 ft. Bankline Oil Co.'s Duncan Ranch 1, dr shell 4100 ft.

SANTA MARIA—Shell's Union Sugar A-1, 25-10-35, dr 2950 ft; Union Sugar A-2, 26-10-35, dr shale 1055 ft.

SUMMERLAND—American Oil Developers' Submarine 1, dr shale 424 ft. C. B. Becker's 1, 22-4-26, will deepen from 3100 ft.

TORTUGA CANYON—Standard's Schyvers 1, dr hard sand 2050 ft.

VENTURA COUNTY

CAMARILLO—American Oil Co.'s 1, 33-2-20, dr hard rock, oil showings 1000 ft.

CONEJO—Triunfo Oil Co.'s 1, 24-1-19, dr hard sand 840 ft.

FILLMORE—Federal Oil Co.'s Elkins 1, 5-3-19, co 3385 ft.

HUENEME—The Texas Co.'s Eastwood 1, 16-inch cas cmt, 965 ft, td 1195 ft.

OJAI—Continental's Thompson 1-A, dr shale 6633 ft. Miley Oil Co.'s Casitas 2-A, dr shale 960 ft.

PIRU—Pacific Western Oil Co.'s Tehmescal 5, 3-4-28, making prod. test 3600 ft.

SANTA PAULA—W. W. Bryant's Anlauf 3, 21-4-21, sr brown shale 840 ft. San Pedro-Pt. Fermin's Kellerman 1, 13-4-21, sr 710 ft.

SATICOY—Standard's Citrus 5, 10-2-22, dr gray sand 525 ft.

SESPE—The Texas Co.'s McGuire 1, 2-3-19, dr gray sand 535 ft.

SIMI—Shell Oil Co.'s Marr 1, 31-3-17, dr hard sand 2640 ft.

SOUTH MOUNTAIN—F. A. Craise's S-1, 17-3-20, new lcn. Ring Pet. Corp.'s Converse 1, pumping oil, td 4840 ft.

VENTURA—California-Ventura Oil Co.'s 1, rigging rotary.

MISCELLANEOUS

FRESNO COUNTY—Currency Pet. Co.'s 1, 28-21-14, dr shale 1628 ft; No. 1, 14-21-14, dr 150 ft. K. C. L. Oil Co.'s 1, 7-19-15, rig. Hornaday and Huggins' 1, 32-14-28, dr shale 2735 ft.

KINGS COUNTY—Dudley Ridge Oil Co.'s 1, 12-23-19, co 500 ft, td 1450 ft.

MERCED COUNTY — Applegate and Renshaw's 1, 24-6-10, dr gray sand 3678 ft. H. L. Kuhn's 3, 8-12-19, dr gray sand 345 ft.

MONTEREY COUNTY—Marland's Naciemento 1, 32-24-11, 8⅝-inch cas cmt 4735 ft, td 4865 ft. Shell's Dudley 1, 15-22-19, dr hard sand 1800 ft. Union's Paige 1, 8-22-8, new lcn.

SAN LUIS OBISPO COUNTY — Lincoln Drilling Co.'s 1, 18-32-23, sd 765 ft. Panorama Oil Co.'s 1, 7-31-21, dr 3515 ft. Texas Pacific Coal and Oil Co.'s Dutton 1, 25-32-14, re-dr 200 ft. Union's Russ 1, dr brown shale 3434 ft; Chandler 1, 12-32-15, dr hard sand 2966 ft.

TULARE COUNTY — Big Four Drilling Co.'s 1, 29-23-27, fsh for 4½-inch cas 4330 ft. Ohio Oil Co.'s Wisecarver 1, 9-31-22, bldg rig.

KANSAS

BARBER COUNTY — Barbara Oil Co.'s Lytle 1, cel ne ne sw 12-33-13w, dr 4645 ft. Rolands et al's Pickens 1, ne nw ne 27-30-14w, set 8-inch csg 4475 ft. Allison & Fitzwilliams' Morrise 1, c nw se se 9-30-12w, dr 900 ft.

BUTLER COUNTY — Smith & Ash Donnelly 1, nec 8-24-6e, dr 980 ft. Phillips & Shell's McClellan 1, se sw 23-26-6, dr 1205 ft. LaRobb et al's Bronsenger 1, ne se 24-27-3e, ru. Shell's Thiesstein 1, c se sw se 10-24-3e, dr 750 ft.

CHASE COUNTY — Grisner & Fowler's Carson 1, ne ne 9-21-7e, sd 3190 ft.

CLAY COUNTY — Derby & Snow Bros.' McNeil 1, c sw nw 15-9-4e, dr 1966 ft.

COWLEY COUNTY—Pyle & Sutter's Lindstrum 1, se ne 9-25-4e, dr 3535 ft. Wakefield & Osborne's Osborne 1, nw ne 18-30-3e, dr 2130 ft. J. B. Markey's Tatum 1, se sw 11-31-6e, sd 500 ft.

DICKINSON COUNTY—T. C. Johnson's Detweiler 1, swc ne nw 32-16-4e, dr 600 ft.

EDWARDS COUNTY — Amerada-Wilcox, Teansil 1, nw cor 32-25-19w, dr 4856 ft. British-American Oil Co.'s McCarty 1, ne nw 31-25-17w, sd 3810 ft.

ELLIS COUNTY — Rush Oil Co.'s Gatewood 1, nw 4-15-20w, sd 1100 ft. Finney & Weimer, Freeman 1, nw se se 24-15-20w, spudded and sd. Brown's Gestner 1, nw se nw, 13-13-18w, dr 1350 ft. Burge et al's Hadley 1, c sw sw nw 20-11-17w, spudded and sd. Brouck's Wagner 1, c se se 35-15-16w, dr 3305 ft. Phillips' Schmeidler 1, nw cor 20-12-17w, 8-inch csg 3132 ft. Labette Oil Co.'s Urbank 1, ne nw nw 19-15-16w. T. C. Johnson's Robbins 1, sw nw 15-14-16w, dr 1025 ft. Phillips' Johnson 1, sw ne 9-13-19w, dr 2610 ft. Phillips' Dechant 1, ne se 12-13-16w, dr 1720 ft.

GREENWOOD COUNTY—P. H. Balieu's Bright 1, ne sw 22-27-12e, sd 1210 ft.

GEARY COUNTY—Wright et al's Younkers 1, nwc ne 17-11-5e, sd 1200 ft.

GRAHAM COUNTY—Gulf Coast's Johnson 1, swc nw se 27-8-15w, sd 2450 ft.

HARPER COUNTY—Amerada's Mendiville 1, c se se 24-34-6w, dr 4650 ft after plugging back.

HARVEY COUNTY — Margaret Gay Oil Co.'s Grouse 1, nw ne nw 29-23-1w, sd 2100 ft. Helmerick & Payne's Lindamood 1, c sw ne sw 2-22-1e, ur 6-inch 2990 ft. Empire's Tageman 1, c sw ne ne 19-22-1e, dr 3142 ft. R. F. Garland's Cox 1, ne cor 27-24-1w, dr 3505 ft. Hartman & Skaer's Seaman 1, c nw ne se 26-24-1e, dr 2150 ft. Roth & Fauret's Bombrowsky 1, nwc 26-22-1e, dr 700 ft. Jolly & Ogg's Randall 1, nec 11-24-1w, dr 2720 ft. Patton et al's Buning 1, c se sw ne 18-24-1e, sd 1250 ft. Jolly & Ogg's Hupp 1, se ne 22-23-1w, dr 1285 ft. Fisher & Lauck's Regier 1, nw ne 17-23-2e, sd 2980 ft. Rosenthal et al's Ingalls 1, c nw sw 24-23-3w, dr 1400 ft. Slick & Connell Oil Co.'s Gatz 1, nw se 36-22-1e, spudded. Independent & Reserve's Moulds 1, c ne 7-24-1w, rig.

JACKSON COUNTY—Garvin & Morton's Lutes 1, sw nw nw 27-7-15e, dr 2230 ft.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nw sw sw 19-10-17e, ru and sd.

KIOWA COUNTY—Wilcox O. & G. Co.'s Woodward 1, nec 35-27-17w, sd 650 ft.

LANE COUNTY — Blankenship Pet. Co.'s Shaeffer 1, nec ne 24-16-28w, spudded and sd. Robinson et al's Dickerson 1, swc nw se 11-18-27w, 8-inch csg 2625 ft.

MARION COUNTY — Connell & Prairie's Zirak 1, se sw 3-18-3e, dr 1850 ft. Meyer's Papp 1, sw ne 10-18-2e, chat 2590-2635 ft Hartman & Skaer & White Eagle's Kline 1, ne nw 28-12-3e, dr 2270 ft. General Utilities' Propp 1, c ne se sw 8-19-4e, rig. Hanna's Pankratz 1, ne ne sw 13-20-3e, rig. General Utilities Burkholder 1, csl n½ se 8-19-3e, dr 1075 ft. Moore et al's Miller 1, nec 26-19-1e, dr 520 ft. Empire's Scully 1, c sw ne ne 28-19-2e, rig.

MARSHALL COUNTY — Irwin et al's Cocper 1, ne nw 10-3-7e, dr 925 ft.

MORRIS COUNTY—Hiatt et al's Blythe 1, nw ne 35-15-5e, dr 1240 ft.

McPHERSON COUNTY—McPherson Coun-

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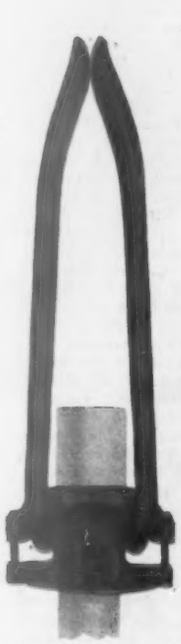

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ty Gas Co.'s Rasmussen 1, swc 8-18-3w, spudded and sd. Ted Washabaugh's Vosshell 1, ne ne 9-21-3w, dr 2840 ft. Mid-Kansas' Yoder 1, c nw sw 8-20-4w, dr 3630 ft. Lariaux et al's Martinson 1, ne se 9-19-3w, rig. Helmerich & Payne's Rusen 1, c ne se sw 23-21-2w, sd 450 ft. Tatlock et al's Meyer 1, c sw sw ne 32-20-1w, dr 550 ft. McPherson's Reitz 1, nw se sw 1-20-2w, ru. Merriman & Shydell's Shindberg 1, c se nw 18-19-2w, spudded.

NESS COUNTY—Barnsdall's Lauck 1, c sw 35-18-21w, ur 8-inch csg 3662 ft.

OTTAWA COUNTY—Anderson et al's Bank 1, ne nw 28-10-2w, dr 3275 ft.

OSBORNE COUNTY—Trees' Payenter 1, c ne se se 22-6-15w, dr 300 ft. Jarvis' Jellison 1, sec 13-10-15w, dr 2635 ft. Empire's Crest 1, se ne 30-9-14w, dr 2320 ft.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel ne ne 31-21-16w, sd 1560 ft.

PRATT COUNTY—Jones & O'Haver's Lunt 1, csw nw 15-28-14w, dr 265 ft.

PHILLIPS COUNTY—Watsonian Oil Co.'s Marklein 1, ne sw 21-3-19w, fsh 3895 ft. Watsonian & British-American's Weinman 1, c sw sw 34-2-19w, sd 1800 ft.

RENO COUNTY—Perry et al's Oswald 1, ne ne se 30-22-5w, dr 1840 ft. Austin Drlg. Co.'s Strickey 1, swc nw 12-26-5w, dr 880 ft.

RICE COUNTY — Allison & Fitzwilliams' Poland 1, ne sw ne 36-19-8w, cellar. Higgins & Steinbuble, Shurr 1, ne sw 21-20-10w, sd 1820 ft.

RILEY COUNTY—Grey et al's Smith 1, ne se 30-6-6e, ru.

ROOKS COUNTY—Krueger et al's Steis 1, c nw se sw 12-9-16w, spudded and sd. Burford & Brimm's Toxa 1, ne sw se 22-9-17w, spudded and sd. Prairie's Gick 1, c se 22-9-18w, dr 2625 ft.

RUSH COUNTY — Danciger O&R Co.'s Pinonka 1, c ne sw ne 17-19-17w, dr 1600 ft. Central Commercial's Brack 1, nec sw sw 12-17-16w, spudded and sd. Phillips' Legleiter 1, c ne nw se 10-16-18w, dr 3240 ft. Barnsdall's Brock 1, c se se 21-17-17w, spudded. Danciger's Swindt 1, swc 22-17-17w, spudded. Wilcox O&G Co.'s Schwartz Roph 1, c ne nw sw 27-17-17w, dr 815 ft.

RUSSELL COUNTY—T. B. Slick's Sellans 1, sw ne 36-15-13w, spudded. Phillips' Solback 1, se nw 32-12-14w, rog.

SALINE COUNTY—M. Esty et al's Peterson 1, c ne 6-16-5w, spudded and sd. Nathan-Jones et al's Robertson 1, nw sw 27-14-2w, dr 3517 ft. Kenning Coastal Co.'s Beel 1, e 23-14-5w, dr 1280 ft. Boyle et al's Miller 1, swc se 21-16-1w, sd 2615 ft.

SEDGWICK COUNTY—Magnolia's Wise 1, nwc 36-28-1w, fsh 2700 ft. Producers Oil Co.'s Jones 1, c sw ne se 31-26-2e, dr 1975 ft. Hawkins' Murfie 1, c sw 4-25-1w, dr 390 ft. Hartman & Skaer & Carter's Hitchinson 1, c se se sw 23-28-2w, sd 2380 ft. Morgan & Tilley's Fitzgerald 1, nw ne 5-26-1w, sd 800 ft. Slick's Rosenhagen 1, c sw se ne 33-27-4w, dr 950 ft. Blankenship & Washoma's Tuttle 1, sw nw 1-27-1e, dr 1215 ft. Connell Oil Co.'s Cross 1, ne cor 27-25-1w, sd 2730 ft. Kroder et al's Harden 1, sw nw sw 20-26-1e, sd 1100 ft. Morgan et al's Corn 1, sw ne 28-25-1w, dr ur lugs 3260 td. Jones & Kirk's Sheppard 1, c se ne 4-25-1e, dr 2510 ft. Kyser et al's Stroot 1, sw nw 28-26-1w, hfw 3483 ft. H. H. Patton, Ryder 1, nec 22-25-1e, dr 3515 ft. Lario & Blair's Tjaden 1, c ne se 22-29-2w, ur 8-inch csg 2800 ft. Maglason's Buckles 1, nw se 3-28-1w, sd 250 ft. Ramsey's Schuessler 1, swc 1-25-1e, dr 3200 ft. Miller & Wentz's Shaeffer 1, nw ne 9-27-2w, sd 1600 ft. Lewis et al's Taylor 1, nw ne 23-27-2e, ur 6-inch csg 2835 ft. Shawver et al's Reeves 1, c se sw ne 19-28-1e, dry and abn 3618-3633 ft hfw. Washabaugh's Harrison 1, c nw ne ne 3-26-2w, sd 350 ft. Hammond & Stout's Roeder 1, sw nw 23-27-2w, rig. Burnet O&G Co.'s Davidson 1, c nw nw sw 27-26-1e, rig. Connell & Slick's Mahannah 1, c ne se se 3-25-1w, sd 1425 ft. Empire's Henderson 1, swc 35-25-4w, rog. Sullivan et al's Shelly 1, c nw ne se 32-29-2e, dr 2150 ft. Shawnee Oil Co.'s Newman 1, e se sw nw 5-26-1e, rig. Reynolds & Roger's Updegraft 1, c se sw se 26-25-1w, aru. Twist et al's Armstrong 1, ne nw 28-26-1e, rig. Patton & Wentz's Swanson 1, nw ne 6-26-2e, dr 1440 ft. Twist et al's Joseph 1, 4-25-1w, dr 775 ft. Tatlock et al's Cook 1, swc 25-28-2e, dr 1880 ft. La Font et al's Carlton Bros. 1, c se se sw 24-28-1e, rig. Frank Wehn's Wilson 1, c ne nw se 9-26-1w, rig. Shell's Lygrisse 1, se ne 15-26-2e, ur csg 2980 ft, hfw 2908 ft.

SHERMAN COUNTY—A. L. Henson et al's Murray 1, ne se nw 22-7-40w, sd 3035 ft.

SMITH COUNTY—Mid Kansas's Lambert 1, nec 4-2s-13w, dr 3225 ft.

STEPHENS COUNTY—W. Sidwell et al's Kelly 1, sw ne 16-34-38w, dr 1310 ft. Trees Oil Co.'s Unknown 1, sw ne sw 3-35-38w, dr 500 ft.

SUMNER COUNTY—Gypsy's Williams 1, nw se sw, 16-35-3w, dr 4660 ft. Davidson et al's Strickland 1, sw se 12-35-1w, rig. Marland's Curry 1, nw sw 26-34-2e, ur 10-inch csg 1962 ft.

TREGO COUNTY—Central Commercial Oil Co.'s Ellis 1, ne sw ne 20-13-21w, 6-inch 3360 ft, top Oswald 3649 ft.

WASHINGTON COUNTY—McCool & Vincent's Linn 1, nw ne 27-4-3e, ru.

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
ASHLEY COUNTY—		
Texas Co., Keiffer 1, 11-18-4.....	*	3574
UNION COUNTY—		
Frank Foster et al, McDonald 1, 11-17-18	*	3513

ASHLEY COUNTY—Atlantic O. P. Co.'s Bledsoe 1, 20-15-7, wo 2554 ft. Texas Co.'s Keiffer 1, 11-18-4, dry abn td 3574 ft.

BRADLEY COUNTY—Ohio Oil Co.'s Sou. Lbr. Co. 2, 19-16-9, old well rig up resume dr td 3217 ft.

CLARK COUNTY—Wm. Henry, Tr.'s Clark 1, 34-9-21, sd 1385 ft.

CRAWFORD COUNTY—Industrial O. & G. Co.'s Brownlee 2, 22-9-31, lcn.

COLUMBIA COUNTY—G. W. Dawley et al's Fullenwider & Kitchen 1, 12-17-22, sd wo 2847 ft. Helena O. & G. Co.'s Pickler 1, 19-19-22, tested dry light show oil and gas through ds 2187-97 ft dr 2210 ft.

CHICOT COUNTY—W. S. Smith's Meyer 1, 19-19-2, sd wo 850 ft. Joe Crawford's Cashion 1, 14-18-2, ds stuck 2330 ft.

DALLAS COUNTY—Robt. H. Dedman's Hillman 1, 20-10-13, temp abn td 1145 ft.

DREW COUNTY—Ohio Oil Co.'s Jerome Lbr. Co. 1, 13-15-4, dr 2950 ft.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Stermer 1, 17-4-13, temp abn td 3462 ft.

FRANKLIN COUNTY — Ozark Nat. Gas Co.'s McElroy 1, 15-8-27, lcn.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, dr with tools 2980 ft. Chaywood Oil Co.'s Malvern Lbr. Co. 1, 17-2-17, sd wo 1665 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, sd 1400 ft.

JOHNSON COUNTY — Ark. Nat. Gas Corp.'s Bynum 2, 12-10-24, fsh bit td 2500 ft. McPherson 1, 10-10-24, fsh bit td 3330 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 21-12-13w, sd 2941 ft.

LOGAN COUNTY — Ark. La. Pipe Line Co.'s Hanna 1, 26-7-23, dr shale 850 ft. Ark. Nat. Gas Corp.'s W. H. Parks 1, 26-8-24, pulling cas to abn, td 4600 ft.

OUACHITA COUNTY—McDonald Bros.' Wilson 1, 25-15-18, pumped off head arr clean out and deepen with tools, td 2857 ft. Cumberland Pet. Co.'s Burton 1, 24-15-18, rig up. Geo. Kouri et al's Henson 1, 24-15-18, lcn. Magnolia Pet. Co.'s C. M. & K. Wilson 1, 25-15-18, topped Nacatosh 1740 ft, dr 2175 ft. Chas. McDonald's Wilson B-2, 25-15-18, dr 30 ft. Root Ref.'s Wilson 1, 25-15-18, cemtd 10-in cas 173 ft dr 550 ft. Atlantic O. P. and E. M. Jones' Allen A-1, 25-15-18, topped Nacatosh 1770 ft, elev 185 ft, coring 2693-99 ft. Timberlake et al's Wright 1, 25-14-18, dr 1350 ft. Flaucher et al's Bucks 1, 7-15-17, fsh 11 thribbles ds td 2235 ft.

ST. FRANCIS COUNTY—W. F. Harris' Halbert 1, 32-4-4, lcn.

UNION COUNTY—Sundby et al's Yocum 1, 29-16-17, top Nacatosh 2011 ft, dr 2100 ft. Hawthorne O. & G. Co.'s Smith 1, 8-16-17, coring 2292 ft. La. Oil Ref. Corp.'s Manley 1, 15-15-19, coring sand 3280 ft. Frank Foster et al's McDonald 1, 11-17-18, dry abn td 3513 ft. Foster et al's Murphy Land Co. 1, 22-17-17, sd 1400 ft. J. O. Moore, Tr.'s Union Sawmill 1, 11-18-12, coring 2615 ft. Carter Bell et al's Terrell 1, 27-18-14, sd 2594 ft. Wesson et al's Booth 1, 12-15-19, cemtd 10-in cas 40 ft. J. P. Hawkins et al's Goodwin 1, 6-17-15, sd 1204 ft. McDonald Bros.' Mayfield 1, 29-19-15, sd repr rig td 2160 ft. Standard Oil Co.'s J. R. Burns 5, 31-17-15, tested dry 2256 ft fsh bit 2256 ft. Goldwin 1, 36-17-16, dk. Grimes Bros.' Hill 2, 7-18-14, rig up wo. J. C. Marcum's DeYambert 1, 5-19-4, wash to bottom td 3312 ft. W. M. Coates, Tr.'s McDuffie 1, 32-19-16, sd 142 ft. J. W. Olvey's Cotterell 1, 22-19-17, dr 2485 ft. Gulf Ref. Co.'s Rosa L. Cook 1, 1-18-15, dr 3015 ft.

SOUTHWEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
GUADALUPE COUNTY—		
Adams-Lyle's Lambrecht 1	*	2510

BASTROP COUNTY—Gypsy Prod. Co.'s Lottman 1, e Bastrop, sd 2150 ft. Livingston et al's McCall 1, 1 mi s Bastrop, dr 1823 ft shale. Owens et al's Boodman 1, 1½ mi Cedar Creek, sd 382 ft.

CALDWELL COUNTY—Anderson et al's Horner 1, 1 mi s Lockhart, moving in heavy rig, td 1400 ft. Alexander-Smith's Cardwell 1, 4 mi n Lockhart, dr 1632 ft lime; Carter 1, 2 me se Lytton Springs, lcn standing. Owen & Dixson's Callihon 1, s of Lockhart, sd 2010 ft.

GONZALES COUNTY—Greene et al's Dix 1, sw part co., sd 665 ft. Linderman Bros.' Frampton 1, 1 mi n Waelder, dr 565 ft shale. Benedum Trees Oil Co.'s Lamkin 1, 1 mi n Ottine, dr 3544 ft shale. Flynn et al's Wilhouser 1, 12 mi s Gonzales, sd 5212 ft. Empire G. & F. Co.'s Norwood 2, Ottine area, dr 2940 ft shale. Indiana Pet. Corp.'s Karnstadt 1, Ottine, sd 4344 ft. Joe Bruner's Miller 1, 1 mi n Waelder, dr 1785 ft shale. Crown Pet. Co.'s Hattenbach 1, spd.

GUADALUPE COUNTY—Christie et al's Thomas 1, 12 mi ne Seguin, sd 1276 ft lime. Sights et al's Woehler 1, 4 mi e Seguin, will test 2285 ft. Miller Bros.' Springs 1, 5 mi s Seguin, coring 2385 ft. Mid-Kansas' Lohman 1, 8 mi s Staples, spd. Adams-Lyle's Lambrecht 1, 6 mi s Seguin, abn 2510 ft. Magnolia's Whiley 1, 6 mi e Kingsbury, dr 2670 ft Edwards lime.

JIM HOGG COUNTY—The Texas Co.'s Vela 2, dr 250 ft sand rock.

MAVERICK COUNTY—Rycade Oil Corp.'s Chittim 4, 20 mi e Eagle Pass, dr 475 ft; Chittim 3, 20 mi e Eagle Pass, set 8-in cas, 3419 ft; Sullivan 4, 20 mi e Eagle Pass, dr 265 ft to straighten hole.

STARR COUNTY—The Texas Co.'s Virginia Guerra 1, dr 1890 ft lime.

WEBB COUNTY — The Texas Co.'s Weeks-Wilder 2, dr 2100 ft water sand.

MOUNTAIN STATES

NEW MEXICO

COMPLETION — Texas Production Co.'s Lynch 1, se 34-20-34, Lea County, temporarily completed at 3731 ft as 800-bbl well.

CHAVES — Snowden & McSweeney's Merchant 1, ne 27-15s-23e, fsh 4260 ft. R. T. Neal et al's Russell 1, 31-14-25e, fsh 1385 ft. Warman et al's 1, sw 23-13s-24e, sd. Tannehill et al's Butler 1, se 15-21s-24e, dr 895 ft. Transcontinental's Robert 1, 1-14s-28e, dr 1865 ft.

DE BACA—Matador Oil Co.'s State 1, sw 6-4n-20e, dr 600 ft. Pittsburg Oil Co.'s 1, ne 16-1s-27e, dr 4337 ft. Transcontinental's McWhorter 1, 6-35-22e, repairs, td 3680 ft.

GUADALUPE—Hanchett Oil Co.'s 2, 14-8n-24e, dr by bit 2400 ft.

LEA—Midwest's Gregory 22, sw 31-25s-37e, ready to sp; Capps 31, sw 3-19s-39e, dr 700 ft; Farnsworth 19, 12-26-37e, dr 3985 ft; Farnsworth 13C, 13-26-36e, fsh 3127 ft. Gypsy Oil Co.'s Mattern 1, 24-21s-36e, 10-in cem 3047 ft. Exploration Co.'s Record 1, 26-19s-35e, td 4556 ft. Morton et al's State 1, ne 32-11s-38e, dr 1850 ft. Texas' Lynch 1, se 34-20-34, temp compl.; Sheppard 1, ne 6-26s-37e, spray oil 3230 ft, tools lost; Moberly 1, se 17-26s-37e, operations susp. Curtis Drlg Co.'s Nixon 1, 22-18s-34e, sd 1200 ft. Cranfill & Reynolds' Wilson 1, ne 23-25s-36e, dr 3355 ft. Empire Gas & Fuel Co.'s Closson 1, se 6-22s-36e, rigging. Texas Pacific Coal & Oil Co.'s State 1, sw 22-23s-35e, coring at 3355 ft. Henderson et

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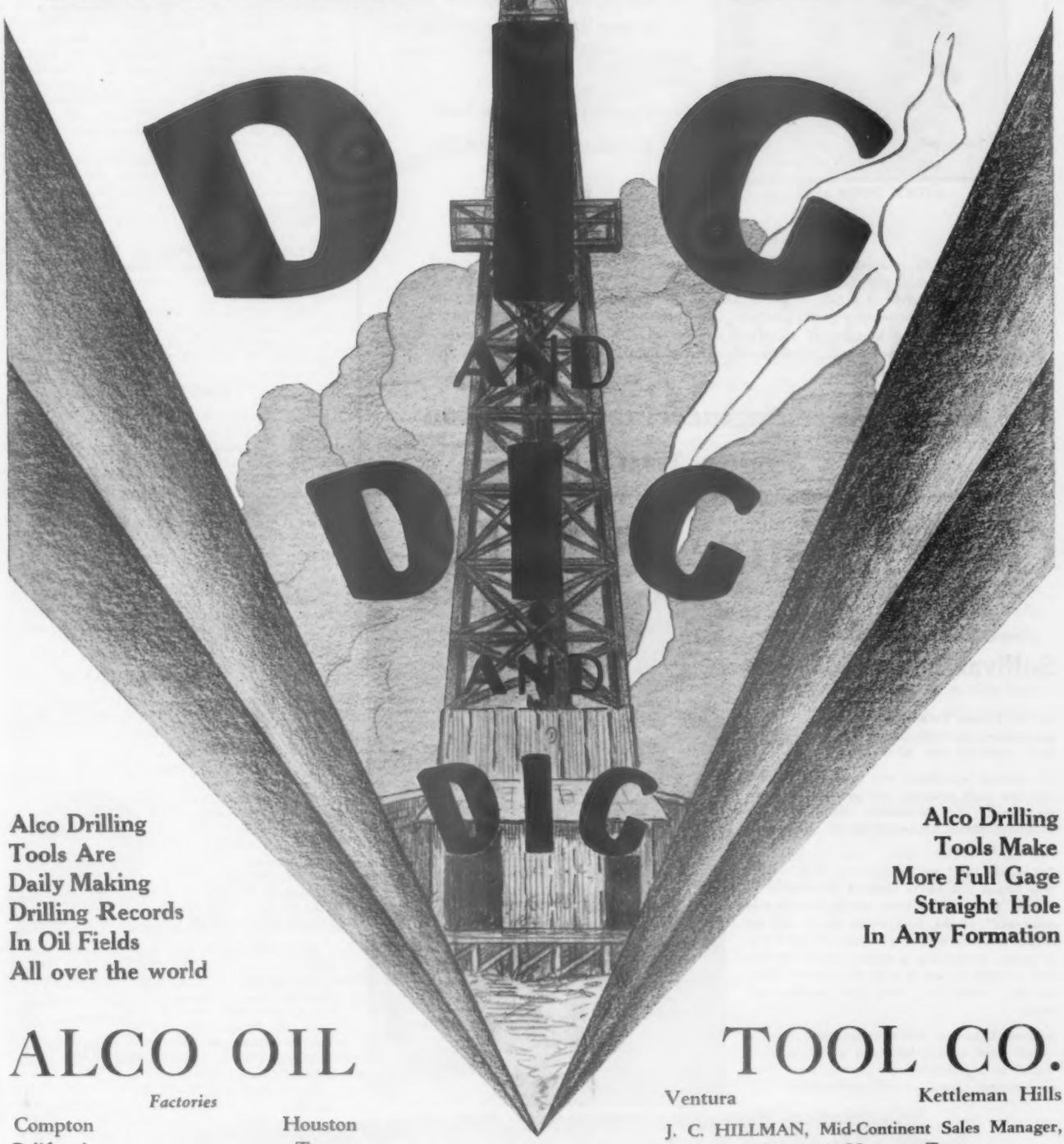

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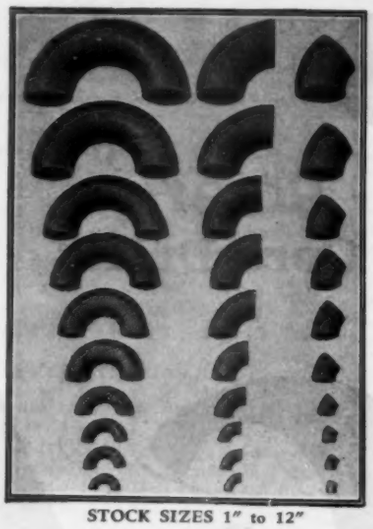

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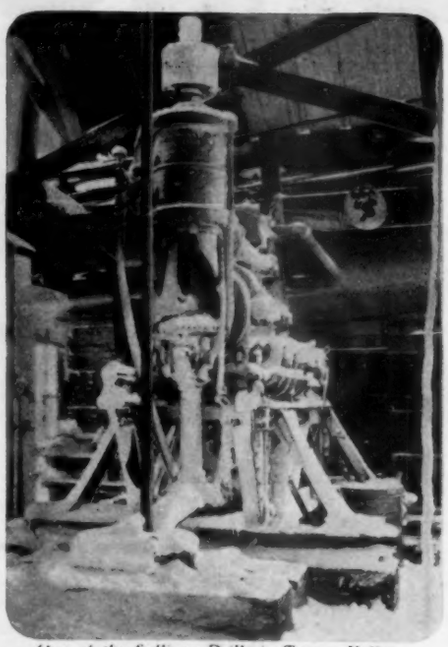

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al's McDonald 1, se 18-20s-34e, dr 2760 ft. Vacuum Oil Co.'s 1, 14-17-34, dr 2700 ft. Bordages et al's Hughes 1, 27-19s-38e, prep to resume 4012 ft. Pueblo Oil Co.'s Scott 1, se 29-25s-37e, fsh 2658 ft. Rector Oil Co.'s King 1, sw 27-25s-32e, lcn. Maljamar O. & G. Corp.'s Simon 1, ne 29-17s-32e, bldg road to lcn.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18n-9w, dr 1130 ft. San Juan Coal & Oil Co.'s 1, se 27-18n-9w, dr 700 ft.

ROOSEVELT—J. T. Keegan et al's Pepper 1, 6-1s-36e, ready to sp. Smith & Sloan's Lovern 1, se 4-3s-35, dr 900 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, co 520 ft.

SAN JUAN—Continental Oil Co.'s Munoz 17, 2-29-19, dr 6690 ft, showing oil. Dorothy Oil Co., 29-30-9, sd 712 ft. Kutz Canon O. & G. Co.'s Day 1, 29-28-11, sd 722 ft. Blackrock Oil Co.'s 1, sw 11-25s-13w, sd 1900 ft. Iowa Oil Synd.'s Viles 2, 28-29-11, sd 694 ft. Angel Peak Oil Co.'s Kutz Canon 1, 11-28n-11w, dr 2339 ft. Great Mesa Oil Corp.'s Roderick 1, sw 11-22n-14w, sd 215 ft. Milwaukee-N. M. Synd.'s Beardsley 1, 30-28-11w, dr 1355 ft. Childers D. & P. Co.'s Westwater 2, nw 24-31-18w, dr 2290 ft.

SAN MIGUEL—Benedict-Wilson's 1, ne 25-17n-16e, sd 800 ft. Pioneer O. & G. Co.'s Thunderbird 1, nw 14-15n-16e, dr 1830 ft. Starr Oil Co.'s Adams 1, ne 25-17n-16e, dr 165 ft.

SOCORRO—Arnold et al's 2, ne 13-6s-1w, fsh 1715 ft.

TORRANCE—Bluhall O. & G. Co., 20-6n-10e, dr 1780 ft. Hall et al's Pinos Wells 1, sw 25-3n-13e, sd 400 ft. Sinnock et al's Kutchin 1, ne 13-7n-7e, dr 117 ft.

VALENCIA—Rio Puerco Oil Co.'s N. M.-Ariz. Land Co. 2, nw 13-6n-2w, wait pipe 3145 ft. Acme Oil Co.'s N. M.-Ariz. Land Co. 1, 26-6n-3w, dr up cas shoe.

EAST TEXAS

BOWIE COUNTY—Hooks O. & G. Co.'s Rosenberg 1, King sur, temp abn td 3086 ft.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 1920 ft.

MARION COUNTY — Trimont Pet. Co.'s Mebane-Stiles 1, Gupton sur, 1000 ft fluid will pump td 2365 ft.

RED RIVER COUNTY—D. M. Buffington's Hoosier 1, Hughart sur, sd 1565 ft. Shad Harper's Garland 1, Jos. Wagley sur, sd wo 1862 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, sd wo 1440 ft.

SHELBY COUNTY—Chaparral Oil Co.'s Holt 2, Matthew Moore sur, sd wo 3004 ft. Gulf Ref. Co.'s Caraway 1, Patterson sur, dr gray lime and blue shale 3785 ft.

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
DE SOTO PARISH—		
Benedum & Trees, Mahoney 1, 22-14-12	sw	2900
RICHLAND PARISH—		
Richland Operating Co., S. R. Humble 1, 30-16-7	¶18	2452
EAST CARROLL PARISH—		
Palmer Corp., O'Brien 2, 6-19-11e. .	¶31	2337
UNION PARISH—		
Carter & Wingfield, Hudson 2, 7-23-1s	sw	2278
Hudson 3, 7-23-1s	sw	2278

BOSSIER PARISH—Nell & Lanier's Biedenharn 1, 23-21-14, sd 790 ft. Big Ben Oil Co.'s Stewart 1, 15-18-12, sd wo 1300 ft. Walker et al's Antrim 1, 28-22-13, re-cemtd 6⅝-in cas after pulling old cas td 3019 ft. John F. Woodman's Bolinger 1, 9-22-11, dr hard rock 3100 ft. Magnolia Pet. Co.'s B. M. Cook 1, 2-22-11, dr hard sandy shale 2853 ft. Sallie Coyle 1, 2-22-11, dk.

CADDO PARISH—D. C. R. Oil Co.'s Hunter Est. 1, 17-19-14, arr to dr plug after setting 6-in cas, 600 ft oil in hole, td 2422 ft. J. O. A. Carper, Tr.'s Hammock 2, 34-18-16, temp abn td 920 ft.

CATAHOULA PARISH — Lochnager O. & G. Co.'s Taliaferro 1, 26-9-6e, sd 900 ft.

CLAIBORNE PARISH—El Dorado Chief Oil Co.'s Baker 1, 26-20-7, temp abn td 3040 ft. Smitherman & McDonald's Miller 1, 17-23-8, sd wo 4780 ft.

DE SOTO PARISH — Benedum & Trees'

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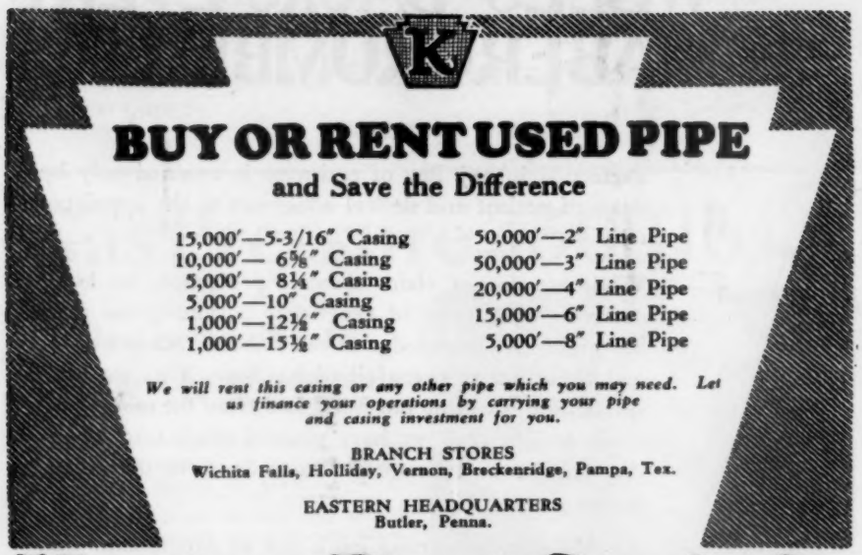
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Mahoney 1, 22-14-12, salt water, abn 2900 ft. Nicholson 1, 2-15-14, dr 2910 ft. P. J. Becker's Tull 1, 23-12-15, sd 1361 ft. Benson O. & G. Co.'s Jackson 1, 3-10-13, rig up. Luke Case, Tr.'s Boatright 1, 3-10-13, tested dry, show oil to deepen 3045 ft. Carlton Drilling Co.'s Stephens 2, 12-11-16, sd wo 2046 ft. R. O. Roy's Sample 1, 1-13-14, tester dry 2904 ft, dr 2935 ft. Thorn Oil Co.'s Burford 1, 22-14-14, sd wo 3020 ft. Longstreet Synd.'s Ramsey 1, 33-13-16, fsh cas td 2802 ft.

EAST CARROLL PARISH—Palmer Corp.'s O'Brien 2, 6-19-11e, 31,024,000 cu ft gas 1050 pounds rp, td 2337 ft.

FRANKLIN PARISH—Davis et al's Moore 1, 12-11-6e, sd 1430 ft.

GRANT PARISH — Carter & Collins' Ball Lbr. Co. 1, 29-7-1w, temp abn, td 2410 ft. Hardtner & Tannehill 1, 9-6-1w, sd 1570 ft.

LINCOLN PARISH—V. E. Shaw et al's Voss 1, 1-20-3w, tested sw, no show oil or gas, wo 2480 ft.

MOREHOUSE PARISH—Woodley & Collins' Harp 1, 22-22-7e, tested 22 fourbles sw, slight show gas 2851 to 2864 ft, arr to deepen. Rainbow Oil Co.'s Louisville Cooperage 1, 33-22-8e, dk.

NATCHITOCHES PARISH—S. D. McDaniels' Clarke-Morse Lbr. Co. 2, 23-5-6w, coring 2438 ft. Robeline O. & G. Co.'s Cassady 1, 7-8-9w, dr lime 2905 ft.

OUACHITA PARISH—Ouachita Nat. Gas Co.'s D'Arbonne B-2, 25-19-2e, sd 3349 ft. Phillips et al's School Fee 1, 16-16-4e, dr 3462 ft.

RAPIDES PARISH — G. E. Silbertson's Willemach 3, 13-5n-4w, sd wo 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, sd 3850 ft.

RICHLAND PARISH—Richland Operating Co.'s S. R. Humble 1, 30-16-7e, 18 mil cu ft gas td 2452 ft. S. C. Wilson's Buie 1, 17-15-7e, sd 1946 ft.

SABINE PARISH—W. J. Garnier's Bowman-Hicks 1, 16-7-12, sd 625 ft. R. L. Gay, Tr.'s Bowman-Hicks 2, 14-7-14, dr lime 3166 ft. Bowman-Hicks 3, 14-7-14, dr 340 ft. Long-Bell Lbr. Co. 1, 26-8-14, rig up. Sabine Lbr. Co. 1, 13-7-14, temp abn td 2936 ft. A. H. Tarver's Long-Bell Lbr. Co. 1, 29-8-13, rig up.

TENSAS PARISH—Enochs et al's Curry 1, 39-11-12e, sd 3583 ft.

UNION PARISH—Sundby et al's Security Trust 1, sd 2300 ft. G. E. Carmatte's Tugwell 2, 21-22-1e, cemt 6-in cas 1841 ft. Carter & Wingfield's Clark A-3, 8-23-1e, dk. Hudson 2, 7-23-1e, salt water, abn td 2278 ft. Hudson 3, 7-23-1e, salt water, abn td 2278 ft. Security Trust 2, 7-23-1e, lcn. H. C. McDonald's Union Sawmill 2, 18-23-1e, sd 1500 ft.

WEBSTER PARISH — P. Hudson's Slack 1, 1-22-11, dr 2455 ft. Nemours Corp.'s Munn 2, 1-22-10, tested 4 mil cu ft gas 2623 ft. J. W. Clark, Tr.'s Mayfield 2, 20-23-9, 600 ft oil in hole, will pump td 2767 ft. Magnolia Pet. Co.'s Atkins 1, 4-22-9, dr chalk rock 2135 ft. Denman 1, 1-22-11, re-cemtd bottom hole 21 ft from bottom, td 2719 ft. Harry Morris' Lewis 1, 13-23-9, sd wo, 2902 ft. John F. Woodman's Boyd 1, 3-22-11, dk.

COLORADO

ARCHULETA—Juanita Oil Co.'s Harvey 1, sw 4-32n-3w, sd 735 ft, bad roads.

BENT—Marland Oil Co.'s Pipe Springs 1, se 27-29s-49w, sd 3987 ft.

ELBERT—Progressive Oil & Land Co.'s Pease 1, sw 27-10s-60w, sp 70 ft.

JEFFERSON—Ruby Hill O. & G.'s Braden 1, se 14-4s-69w, dr 1705 ft.

LAS ANIMAS—Parker Club-Kinney Coastal, se 4-28s-68w, dr 2955 ft. Okla-Colo O. & G. Co.'s Doherty 1, sw 32-34-60w, dr 680 ft.

LARIMER—Barrows et al, 7-11s-68w, sd 2000 ft.

LA PLATA—Royal P. & R.'s Red Mesa 1, 27-33n-12w, sd 650 ft.

LINCOLN—Kelly Oil Co.'s State 1, ne 36-14s-57w, sd 1600 ft.

MESA—Peerless Oil Co.'s Hoel 1, ne 23-8s-104, dr 2155 ft. Parrish & Langston's D. & R. G. Western 1, nw 23-1s-1w, dr 405 ft.

MOFFAT—Mountain Fuel Supply Co.'s State 1, 16-12-100, fsh 3585 ft, td 3600 ft. McLaughlin et al's Wms 1, 2-3n-91w, dr 3285 ft. McCormick et al's Sales 1A, se 28-4n-92w, sp 15 ft, sd.

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Colorado Title & Trust 1, 27-50n-10w, dr 1940 ft.

PUEBLO—Rozella Oil Co.'s Shaw 1, nw 3-22s-63w, pipe trouble, may skid rig. Christopher Oil Synd.'s Stambeck 1, nw 19-22s-63w, dr 1020 ft. Christy-Frantz Corp.'s Mannerich 1, sw 34-21s-63w, dr 1130 ft. Windle et al's Alber 1, se 6-22s-63w, ready to sp. Sheffer et al's 1, se 4-22s-63w, dr 890 ft. Security Oil Trust's Buch 1, nw 14-22s-63w, sd 565 ft. G. E. Stevenson et al's Isis 1, ne 1-23-63, dr 490 ft. Sundance Oil Co.'s Lubers-Oliver 1, 35-21s-63w, dr 400 ft.

RIO BLANCO—White Eagle O. & R. Co.'s Fordham 1, sw 9-2s-86w, sdtr lost bit, td 519 ft.

YUMA—Major Pet., Inc., Black Wold 1A, sw 7-2s-43, ready to sp.

WELD—Platte Valley Pet. Corp.'s Patterson 1, sw 24-8n-61w, making repairs, td 4180 ft.

SOUTHERN CALIFORNIA

Completion

MAYWOOD—		
Richfield Oil Co.'s Vernon 1	*	6060

CALABASAS — Pugh-Miller Drilling Co.'s Colyear 1, dr 500 ft.

CHATSWORTH—Russell Pet. Co.'s Joughin 1, dr gray sand 1964 ft.

COSTA MESA—Mesa Pet. Corp.'s B. A. 1, dr hard sand 3915 ft.

DOWNEY—Rio Grande Oil Co.'s Osborne 1, dr hard gray sand 5060 ft.

FULLERTON—Shell Oil Co.'s Stern 1, dr hard sand 6876 ft.

HUNTINGTON BEACH—Western Drilling & Producing Co.'s Meyer 1, dr shale 1100 ft.

HAWTHORNE — Standard's Freeman 1, rigged ready to sp.

INGLEWOOD-POTRERO—California Eastern Oil Co.'s Pollard 1, testing above plug at 4160 ft. Max Pray's 1, dr shale 1622 ft. John A. Woodward's 1, dr hard sand 4122 ft.

LOS NIETOS—R. W. Jackson's 1, dr shale 655 ft.

MANHATTAN BEACH—Western Drilling & Producing Co.'s Carlin-Smith 1, dr gray sand 4690 ft.

NEWHALL—Coastline Oil Co.'s Mazie 1, dr hard sand 400 ft.

POMONA—Pomona Oil Assn.'s 1, dr fine sand 1035 ft.

PUENTE—Richfield's Didier 1, dr hard sand 4178 ft.

TELEGRAPH CANYON—Union's Rimpau 1, rig.

VENICE—Ohio Oil Co.'s 1, dr shale and sand 1700 ft.

RIVERSIDE COUNTY—Hemet Pet. Corp.'s 1, trying for water shutoff, td 3230 ft. Trabuco Oil Co.'s 1, dr hard sand 3675 ft.

SAN BERNARDINO COUNTY — Mahala Oil & Gas Co.'s 1, fsh for 6¼-in cas, td 4000 ft.

SAN DIEGO COUNTY—S. S. Turner's Baler 1, dr shale 1744 ft.

IMPERIAL COUNTY—Imperial Valley Pet. Co.'s 1, dr sand and shale 2676 ft.

MONTANA

BROADWATER—Swoboda et al's 1, 36-7n-2e, td 200 ft.

BLAINE—Ohio Oil Co.'s Winngert 1, 3-34n-32e, fsh td 3134 ft.

CASCADE—U. S. Pet. Co.'s Miller 1, 8-21-4e, resuming, td 946 ft. Lone Star's McLean 1, 13-21n-3e, skd rig. Rothrock & Reynolds' McIver 1, se 12-20n-2e, moving in to resume.

CHOTEAU—Geraldine O. & G. Co., ne 1-21-11e, dr 1735 ft. Williston-Shelby O. & G. Co.'s 1, 12-28-11e, sd 2765 ft.

GALLATIN—California Co.'s Ringling 1, 35-5n-7e, ur, td 974 ft.

JUDITH BASIN—Gem Oil Co., 15-16-10e, rig up.

LIBERTY—Sunburst O. & R. Co.'s Bears Den 1, nw 17-36-6e, carry 12½-in, dr 1355 ft. Square Deal Pet.'s Johnson 1, se 1-32-7e, wait tools, td 3230 ft. Mid-Rocky Dev. Co.'s Federal Lands 1, 7-33-7e, sd 1500 ft. Western Nat. Gas Co.'s Morrison 1, 5-37-4e, dr 300 ft. Cypress Oil Co.'s State 1, 36-28-6e, dr 1970 ft.

PONDERA—Trapp Synd.'s Hover 1, 35-28-3w, will deepen 2220 ft. Miller Bros.' Bruins 1, nw 17-28-1w, rig up.

STILLWATER—J. S. Stewart, 5-2n-22e, show consid gas at 2300 ft.

SWEETGRASS—Shoshone Consolidated's 1, 23-2n-15e, td 4040 ft.

TETON—Texas Pacific, 12-22-1w, dr 815 ft.

TOOLE—Sunburst O. & R. Co.'s Sunburst 1, nw 10-34-3e, rig up. Monalta Oil Co. Ltd.'s Buckley 1, se 1-37-4w, rig up.

WYOMING

BIG HORN—P. & R.'s 3, 24-56-98, sd 2709 ft. Prairie O. & G. Co.'s Chilcote 1, 35-56n-95w, wait bits 3009 ft. P. & R.'s South Frannie 1, 7-57-97, sd 1950 ft. Cody Pet.'s 1, sw 27-57n-96w, sp.

CARBON—P. & R., 2-19-88, sd 4003 ft.

CONVERSE—Criterion Oil Co., ne 5-31-70, prep to resume, 3600 ft.

FREMONT—P. & R.'s Muskrat 2, nw 1-33n-92w, lcn. Kinney-Coastal's 22-3n-1w, dr 2500 ft.

HOT SPRINGS—Texas Prod. Co., sw 23-45n-100w, sd 1960 ft. MacPherson Oil Co., sw 2-44n-98w, set 5 3/16-in and dr ahead 3317 ft.

LINCOLN—Midwest Refining Co.'s Waterfall 1, 35-22-115, dr 2750 ft.

PARK—California Exploration Co. and P. & R.'s Pitchfork 1, 12-48n-102w, cem 20-in at 225 ft. Midwest's Rosenburg 36, 25-58-98, ur 10-in at 1835 ft. Midwest's Kirk 36, se 23-56n-98w, sd 1960 ft. Cody Pet. Co.'s 1, ne 4-54n-102w, dr 3510 ft. Cody Pet. Co.'s 1, 16-53-101, bldg rig. Oregon-Wyoming Oil Co., 31-51-101w, sp. Grebo Royalties, 2-47n-100w, sd 1700 ft.

SWEETWATER — Mountain Fuel Supply Co.'s Tucker 1, 18-13-99, sd 2480 ft; Humphreys 1, 2-12-101, dr 3310 ft; Otto Arnold 1, 24-19-104, dr 305 ft.

SUBLETTE—California Co.'s Wyss 1, 12-32n-115w, sd 1608 ft; Buchell 1, 11-29-115w, sd 2503 ft.

UINTA—California Co.'s U. P. 1, 7-17-119w, sd 2970 ft, wait drive belt.

WESTON—Continental Oil Co.'s 1, 11-45-64, dill deepen from 1000 ft. California-Wyo. Drill. Synd., 15-44n-64w, ready to resume at 4300 ft.

WEST TEXAS

Completions

CRANE COUNTY—		
Gulf Prod. Co., W. N. Waddell 6..	80	3480
FISHER COUNTY—		
R. W. Rainey and Bill Little, Marberry 2	*	3507
GLASSCOCK COUNTY—		
Gibson-Johnson et al, B. C. Mann 1	*	3630
TOM GREEN COUNTY—		
F. P. Green et al, Fee 1	*	1931
Geo. E. Tinker et al, D. J. Jones 1	*	1010
MITCHELL COUNTY—		
McGinley-Sigler Co., Scott 1	*	730
PECOS COUNTY—		
Benedum-Trees et al, Corder 1-A...	*	3715
Grayburg Oil Co., University 1..	*	1950
PRESIDIO COUNTY—		
Brite Prod. Co., L. C. Brite 2.....	*	700
REAGAN COUNTY—		
The California Co., University 5 ...	*	3272

ANDREWS COUNTY — Deep Rock Oil Co.'s Hestetter 1, elev 3224 ft, top salt 1890 ft, top lime 4100 ft, dr lime 4210 ft. Mid-Continent Pet. Corp.'s Fisher 1, dr 940 ft.

BORDEN COUNTY — Gibson-Johnson et al's Higginbotham 1, elev 2432 ft, top salt 1135 ft, dr 1170 ft. Greene O. & R. Co.'s Slaughter 1, elev 2521 ft, top salt 1222 ft, dr salt 1985 ft. C. E. Hyde et al's Beal 1, elev 2361 ft, top salt 1105 ft, dr 2565 ft. Moncrief et al's Munger 1, lcn. Teas & Wheeler's Long 1, lcn.

BREWSTER COUNTY—Ed. W. Bateman & Co.'s Neville 1, elev 3950 ft, dr up bailer, td 1955 ft. Brewster Oil Co.'s Fee 1, dr 1440 ft. Johnson & Bert Weekly's Jackson-Harmon 1, elev 3972 ft, sd for cas 1000 ft. Forrest Oil Co.'s Skinner 1, sd 1500 ft.

COKE COUNTY—W. C. Cates & J. S. Dennis' Mims 1, trace oil, co 1655 ft; Mims 2, sp and sd. Mid-Kansas O. & G. Co.'s Lackey 1, elev 2102 ft, dr lime 3625 ft. Ray McCamey et al's McCutcheon 1, dr 445 ft.

CONCHO COUNTY—J. L. Duffey et al's Levelace-Lockhart 1, dr 1710 ft. Jones & Liner et al's Jones 1, dr 1040 ft.

CRANE COUNTY—Gulf Prod. Co.'s Waddell 7, rig.

CROCKETT COUNTY—W. A. Moncrief-W. W. Donnelly et al's J. S. Todd 1, (Sec. 35) elev 2530 ft, testing good show 27 degree gravity oil at 1337-65 ft; R. Massie-Todd 1, (Sec. 47), sp and sd. W. W. Donnelly-J. D. Young et al's Shannon 1, (Sec. 42), elev 2661 ft, dr 780 ft. Eppenauer Drlg. Co. & West Texas Pet. Corp.'s Noelke 1, dr 400 ft. Lewis & Daniels' Pecos River Bed 1, elev 1967 ft, set cas 620 ft. J. D. Wheeler et al's States 1, elev 2326 ft, top salt 492 ft, dr 1400 ft.

CULBERSON COUNTY—Deep Rock Oil Co. and Grisham-Hunter Corp.'s Kloh 1, fsh 1440 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, sd 4005 ft.

FISHER COUNTY—Bickerstaff et al's McWhirter 1, elev 1932 ft, sd 2000 ft. Cranfill-Reynolds and Sun Oil Co.'s B. F. Willingham 2, elev 1808 ft, top lime 3071 ft, dr hfw 3275 ft. Culberson Bros. and Mesa Oil Co.'s Griffin 1, elev 1842 ft, trace gas 2265 ft, dr 2340 ft. J. B. Dunigan et al's Henry 1, elev 1913 ft, dr 2925 ft. Gilman-McMurray and French's Cleveland 1, elev 1973 ft, dr 2835 ft. Roeser-Pendleton and Amerada's Haught 1, elev 1792 ft, fsh 1965 ft. The Texas Co. and Phillips Pet. Co.'s Hall 1, elev 2102 ft, dr 1930 ft. White Eagle O. & R. Co.'s Hughes 1, dr 1200 ft.

GAINES COUNTY—Pure Oil Co.'s Williamson 1, elev 3197 ft, top salt 2333 ft, fsh 4124 ft.

GARZA COUNTY—Emerald Oil Co.'s D. Boren 1, elev 2210 ft, co after shot, td 2610 ft; J. S. Reed 1, lcn.

GLASSCOCK COUNTY—Kyle & Daniels' Meek 1, elev 2792 ft, sd 405 ft. Meriwether Oil Co.'s McDowell 2, elev 2517 ft, top salt 970 ft, top lime 2445 ft, dr 3310 ft. Penn Oil Co. and Empire Gas & Fuel Co.'s Hughes 1, elev 2733 ft, top lime 2265 or 2335 ft, dr 3150 ft. World Oil Co.'s McDowell 1-C, elev 2530 ft, dr 2030 ft.

TOM GREEN COUNTY—Williams et al's Wilkey 1, sd hfw 750 ft.

HOWARD COUNTY—Furhman Pet. Corp.'s A. C. Reed 1, lcn. Gibson-Johnson et al's H. N. Reed 1, dr 175 ft. Harrison et al's Dodge 1, co after second shot, td 3257 ft.

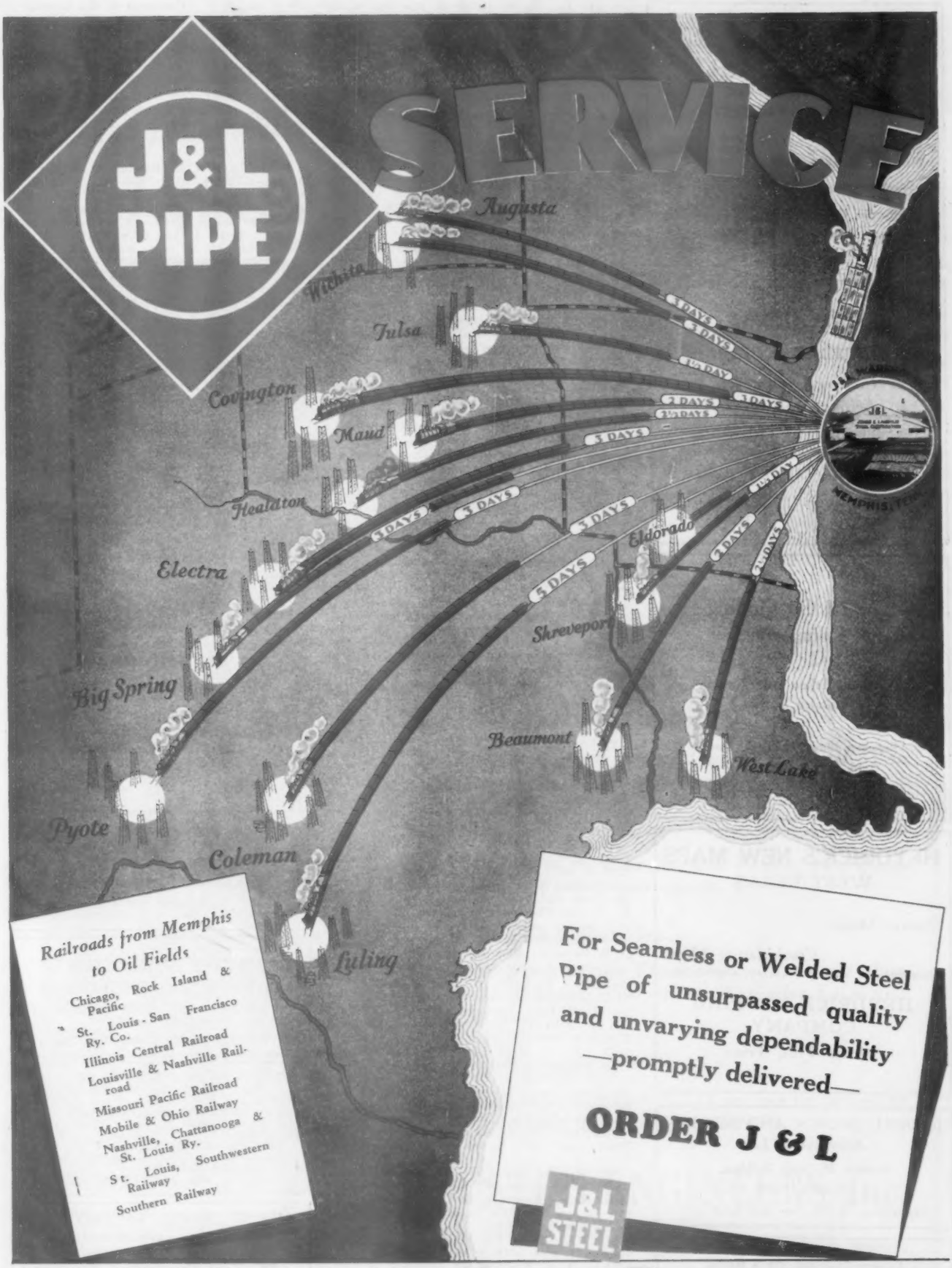
HUDSPETH COUNTY — The California Co.'s University 1, elev 5833 ft, dr 780 ft. Lockhart Bros. et al's Western States Fee 1, sp and sd. Western States Oil Co.'s Gardner-Mosely 1, elev 5086 ft, sd 3155 ft; Moore 1, elev 5150 ft, sd 2760 ft.

IRION COUNTY — Furhman Pet. Corp.'s Sugg 1, Lease 2, dr 620 ft. Kimbrough et al's Nutt 1, elev 2299 ft, sd 1420 ft. Kimbrough & Flinchbaugh's Tankersley 1, elev 2241 ft, dr 1040 ft. Kingwood Oil Co.'s Sugg 1, elev 2334 ft, dr black lime 5990 ft. Signal Oil Co.'s Sugg 2, elev 2498 ft, top salt 760 ft, top lime 1470 ft, sd 2610 ft. Webb et al's Nutt 1, elev 2351 ft, try plug back from 3511 ft and test.

JONES COUNTY — J. E. Brewer et al's Goodman School Lot 1, lcn. Geo. Callahan and Worth Oil Co.'s Britton 1, dr 310 ft. W. G. Clark et al's Dickerson 1, rig; Miller 1, lcn. Condor Pet. Co.'s McDonald 1, dr 1390 ft. Culberson Bros. et al's Anderson 1, lcn. Grisham-Hunter Corp.'s Hester 1, elev 1861 ft, dr 2240 ft. P. K. French et al's Leeson 1, dr 220 ft. Sam Knepley et al's Horn 1, sp and sd. McGinley-Sigler Co. et al's Martin 1, dr 1765 ft; Whittemore 1, sd for cas 1700 ft. McNeeley et al's Bland 1, lcn abn. Roeser-Pendleton et al's Castle-Caldwell 1, elev 1865 ft, top lime 2653 ft, sd 3000 ft. Sedgwick O. & G. Co.'s Routh 1, elev 1730 ft, top lime 2700 ft, dr 3030 ft. E. M. Treat O. & G. Co.'s S. L. Hodges 1, rig. White Eagle O. & R. Co.'s Teague 1, lcn.

LOVING COUNTY — Lockhart & Co.'s Hazell 1, elev 2705 ft, rig; Hazell 2, dk; Johnson 1, rig; Hubbard Heirs 1, elev 2706 ft, top salt 700 ft, dr 3215 ft; Hubbard 2, elev 2692 ft, top salt 718 ft, dr 1760 ft; Wheat 1-H, elev 2713 ft, top salt 720 ft, dr 2210 ft.

LYNN COUNTY—Hart Oil Corp. and McCamey's Edwards 1, elev 3128 ft, sd for rotary,



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td 915 ft. H. F. Miller et al's May 1, sp and sd.

MENARD COUNTY—J. B. Holstein et al's Davis 1, lcn.

MIDLAND COUNTY—Phillips Pet. Co.'s Stokes 1, co 555 ft.

MITCHELL COUNTY—California Co.'s J. W. Clark 2, dr 450 ft. Clopton & Hammon's McKenzie 1, lcn. H. H. Adams et al's Ellwood 1-A, dr 530 ft; Ellwood 1-B, lcn. Jack Ellis and Atlantic Oil Prod. Co.'s Ellwood 1, dr 655 ft. Republic Prod. Co.'s Scott 1, lcn. Simms Oil Co.'s Ellwood 1, elev 2237 ft, top 1215 ft, dr 2445 ft; Ellwood 1-A, sp. Teas & Wheeler's Radford 1, elev 2223 ft, top salt 667 ft, top lime 1365 ft, sd 3965 ft. Westyde Investment Co.'s Ellwood 1, dk.

NOLAN COUNTY—L. G. Bradstreet et al's Kuteman 1, rig. Phillips Pet. Co.'s Plunkett 1, lcn.

PECOS COUNTY—Atlantic Oil Prod. Co.'s J. C. Trees 1, dk. M. H. Black et al's Pecos 1, dr 745 ft. Buell-Hagan et al's University 1-B, lcn. A. R. Bell et al's Gray 1, sd 506 ft. Karl L. Crowley et al's R. G. Heiner 1, elev 2548 ft, show oil and gas 765 and 864 ft. Doran & McGee's Pecos 1, dr 710 ft. Cowboy Evans et al's Pecos 1, lcn. Spot Geyer et al's B. F. Smith 1, top salt 745 ft, sd with trace oil 1220-30 ft. J. W. Grant et al's Turney 1, elev 2592 ft, top lime 1015 ft, sd 4590 ft. Imperial O. & G. Co.'s Pecos 1, lcn. Sam Kitts et al's Sherbino 1, rig. Mauch & Krogen's Holmes 1, elev 2325 ft, top salt 535 ft, fsh 1355 ft. R. E. Moore et al's Arnold 1, machine. W. A. Moncrief et al's Tippett 1, machine. J. D. O'Mara et al's Byrne 1-A, sp and sd. O. J. Perren et al's Eaton 1, elev 2497 ft, top salt 1090 ft, making 20 million ft gas, 1490-1502 ft, fsh tools. Phillips Pet. Co.'s Courtney 1, dr 560 ft. Schumaker et al's Williams 1, elev 2388 ft, sd 700 ft. Shell Pet. Corp and Kirby Pet. Co.'s University 1, elev 2628 ft, sd installing heavy drilling equipment, td 4404 ft. Talbot et al's D. K. Unsicker 1, lcn. Tidal Oil Co.'s University 1, sp and sd. Transcontinental Oil Co.'s University 1, elev 2552 ft, top lime 1035 and 3315 ft, dr hard lime 4307 ft; White-Baker 1, elev 2810 ft, dr 140 ft. Trees Oil Co. and Empire G. & F. Co.'s J. C. Trees 1, elev 2461 ft, dr with hfw 1285-1336 ft, 1490 ft. Bert Weekly et al's Byrne 1, dr 320 ft.

PRESIDIO COUNTY—Brite Prod. Co.'s L. C. Brite 3, dr 205 ft. C. E. Miller-Delmar & Phillips Pet. Co.'s Tootle 1, co 2340 ft.

REAGAN COUNTY—Kemrow & Co.'s Sawyer 1, lcn. Skelly Oil Co. and Utah Southern's University 4, sp. Oberholtzer et al's Talley 1, elev 2592 ft, top salt 1005 ft, dr 2685 ft.

REEVES COUNTY—Penn Oil Co.-Amerada et al's E. G. Bowles 1, elev 2783 ft, top salt 1725 to 4425 ft, pull cas to make deep test after testing mostly water at 5175-77 ft. Southern Crude and Dixie Oil Co.'s Kloh 1, dr 1145 ft. D. R. Thompson et al's Eddins 1, elev 2719 ft, top salt 1622 ft, gray lime 3216 ft, brown lime 3500 ft, sr hole, td 5658 ft. Lee O. White et al's Kloh 1-A, elev 3244 ft, sp.

RUNNELS COUNTY—Herbert Oil Co. et al's Currie 1, dr 410 ft. Independent O. & G. Co.'s Rollwitz 1, cas collapsed 1475 ft. Marland Prod. Co.'s Herring 1, elev 1821 ft, ur 8-in cas 2610 ft. Ira Nourse and E. Tilton's Cramer 1, elev 1775 ft, dr 3200 ft. Union Oil Co.'s Allen 1, sd hfw 3850 ft. Vacuum Oil Co.'s McMillan 4, dk.

SCHLEICHER COUNTY — Ft. McKavitt Oil Co.'s Tisdale 1, elev 2155 ft, dr 1975 ft. Interstate Explo. Co.'s Whitten 1, dr 3375 ft. Underwood Oil Co.'s Tisdale 1, lcn.

SCURRY COUNTY—R. B. Pender et al's Davis 1, elev 2208 ft, top salt 445 ft, sd 2525 ft.

STERLING COUNTY—Foster-Gracey Oil Co.'s Foster 1, elev 2260 ft, fsh 2200 ft. Miller Bros. et al's Foster 1, elev 2662 ft, top salt 1140 ft, top lime 2094 ft, dr 2755 ft. Wilson et al's Ellwood 1, lcn.

SUTTON COUNTY — Phillips Pet. Co.'s Holman 1, elev 2247 ft, top lime 2315 ft, dr 6365 ft. L. G. Priest et al's Allison 1, dr 1340 ft. Southern Crude and Dixie Oil Co.'s Allison 1, fsh bailer 4180 ft.

TAYLOR COUNTY—J. B. Jameson et al's Webb 1, dr 1810 ft. Mid-Continent Pet. Corp.'s Taylor 1, elev 1933 ft, plug back from 3007 to 2500 ft. C. M. Root Drlg. Co.'s Martin 1, dr 520 ft. Thompson et al's Hamner 1, mudding cas 2400 ft.

TERRELL COUNTY — Milham Corp.'s Bassett 1, elev 2270 ft, sd 4635 ft.

UPTON COUNTY—Sun Oil Co.'s R. E. Long 1, dr 230 ft.

VAL VERDE COUNTY—Dyer Bros. et al's Wilson 1, elev 2115 ft, fsh 2715 ft. Producers Oil Co. et al's Everett 1, sd 2290 ft. Val Vert Oil Corp.'s Bassett 1-A, elev 2069 ft, sd for cas 3760 ft.

WARD COUNTY—Barstow O. & G. Co.'s Monroe-Gillespie 1, sp and sd. Gulf Prod. Co.'s G. W. O'Brien 1, (Sec. 19, Blk. "F"), elev 2657 ft, top salt 1290 ft, flowing est. 60 bbls 38-39 degree gravity oil per hour at 2600-31 ft. J. H. L. Oil Co.'s Hayzlett 2, elev 2505 ft, top salt 745 ft, dr 1070 ft. K. Kimberlin et al's Thompson 1, lcn. J. F. Shipley et al's Monroe 1, lcn. Tex-Oil Prod. Co.'s Redman 1, fsh 960 ft.

WINKLER COUNTY—M. J. Bashara et al's Fee 1, dr 1830 ft. Liner Drlg. Co. et al's Campbell 1, sp and sd. Prairie O. & G. Co.'s Scarborough 1, elev 2914 ft, dr pay with 2000 ft oil in hole 2930-3000 ft. Shell Pet. Corp. and Llano Oil Co.'s Scarborough 5, elev 2966 ft, top salt 1110 ft, dr dry hole 3515 ft. Texas-Canadian Oil Co. and Superior's Kloh 1, elev 3243 ft, top salt 1490 ft, dr 2510 ft.

YOAKUM COUNTY—Bert Weekly et al's Knight 1, elev 3692 ft, set 10-in cas 1000 ft.

West Midway

Taft, Calif.—Union Oil Company has reached a depth of 4400 feet in W. P. 1, a test of the deeper zones in the West Midway district, but has not found a sand worth testing since leaving 2100 feet. This well is located about three and one-half miles southeast of the Republic Petroleum Company's discovery well on Section 8-32-23 and was started in search of the same zone. About 10 wells are shut down in the district, with half as many drilling for the sand. Republic Petroleum Company is drilling at 1100 feet in No. 34, an indirect offset to the discovery well.

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Home Office: 1904 Amicable Bldg., Waco, Texas
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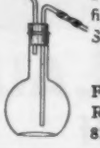
SERVING ALL THE TEXAS FIELDS

THE FT. WORTH LABORATORIES

Field Gas Testing. Analysis of oil field brines, gas minerals and oil. Sell Thermometers, Hydrometers and Laboratory Glassware.
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R. H. Fash, B. S., Vice-President
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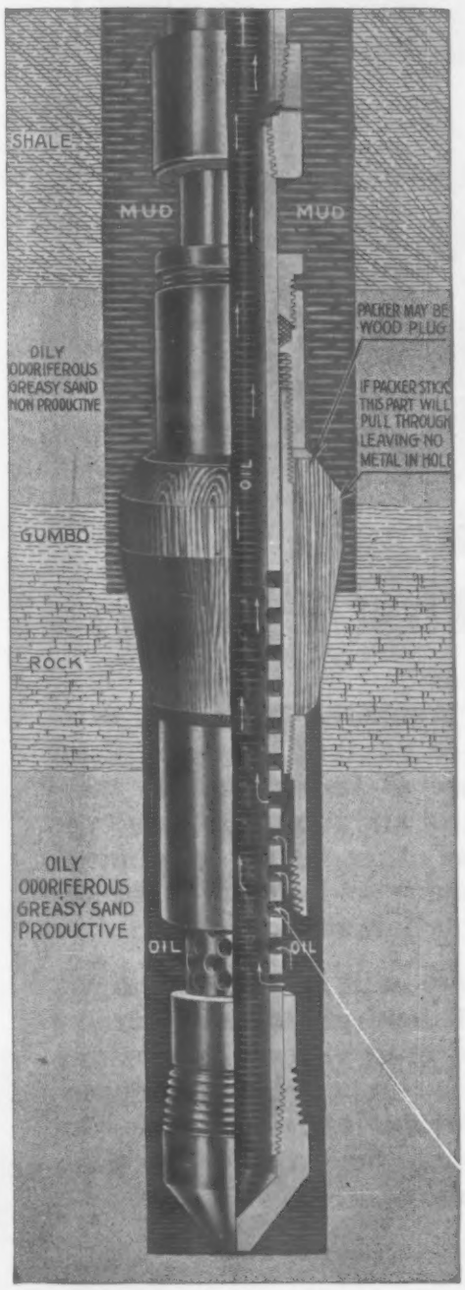
EDWARDS
FLOW TESTER
Leaves No Room for Doubt



The Edwards Improved Flow Tester is protected by United States Patents No. 1,514,585, dated November 4, 1924. Other patents pending.

This is the Tester That Has—

1 ***Means for producing a vacuum in the sands being tested.***

This is the Tester That Has—

2 ***Means for agitating the fluid against the face of the formation being tested.***

This is the Tester That—

3 ***You can rotate during entire test. You want a sample and not a stuck pipe.***

This is the Tester—

4 ***With the combination Packer that will make a test in rotten formation.***

This is the Tester That Has—

5 ***Perforated pipe covered going in well. You want a test and not a choke off.***

This is the Tester That Has—

6 ***No valves to stick in the flow Tester. You know when the Flow Tester opens.***

This is the Tester That Has—

7 ***Metal parts of the Flow Tester no larger than the Drill Stem. You can drill smaller holes and save money.***

This is the Tester That Will—

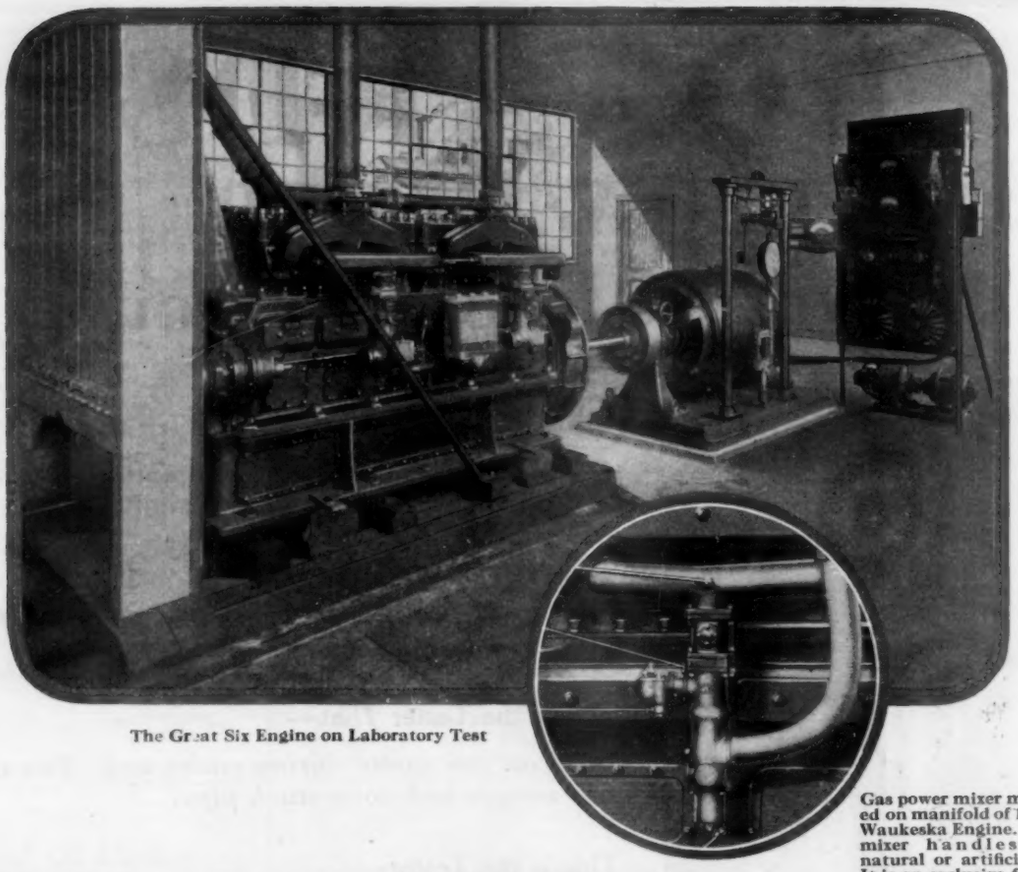
8 ***Test in any "Rat Hole" 3⅛ inches or larger or in open hole 4⅛ inches or larger.***

HOUSTON ENGINEERS, Inc.

HOUSTON, TEXAS

Preston 1927 Night, Taylor 1996 P. O. Box 276

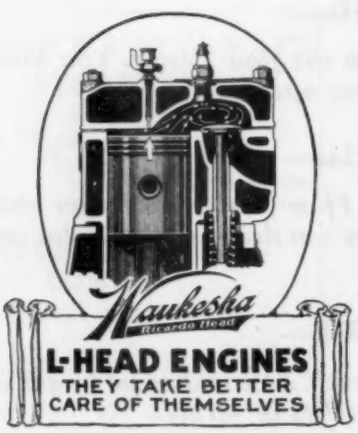
Your inquiries either direct or through your supply dealer will receive immediate attention. Give us a ring day or night.



The Great Six Engine on Laboratory Test

Gas power mixer mounted on manifold of 120 hp. Waukeska Engine. This mixer handles still, natural or artificial gas. It is an exclusive feature obtainable only with Waukesha Ricardo Head Engines.

All Waukesha Oil Field . . . Engines Must Perform



Whether you use a Waukesha Engine for driving a slush pump—or a rotary head and draw works, you are sure of its satisfactory performance. The latest and most accurate type of dynamometer and other testing equipment insure that every engine sold will meet the requirements of the oil field service.

Waukesha engines are built in sizes up to 300 hp. to meet each oil field production requirement with the size most economical for the duty required. They run on waste gas or gasoline, are readily portable and do not require elaborate foundation for mounting or enclosing buildings for protection.

933

OIL INDUSTRY EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

New York Tulsa WAUKESHA, WISCONSIN Houston San Francisco

Exclusive Builders of Heavy-Duty Internal Combustion Engines for Over Twenty Years

Say you saw it in The OIL WEEKLY

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Drilling-Coring Bit

REED ROLLER BIT COMPANY

Reed's Barrett-Robishaw Drilling-Coring Bit is a new tool brought out by the Reed Roller Bit Company, Houston and Los Angeles. The manufacturers state that "while this bit is a brand new tool, the principles upon which it is built are as fundamental as the rotary drilling industry itself."

The bit is of the fish tail type, forged out of special analysis vanadium alloy steel and having its cutting and reaming edges faced with a hard surfacing material.

"The elimination of a cutting edge in the center of the hole in conjunction with the intensified water action at that point gives this bit a far better cutting action in gumbo or sticky formations than is ordinarily obtained with a regular type fish tail bit," declares the company in its announcement of the new tool.

Cutting and reaming edges may be rebuilt and redressed at such intervals and with such materials as may be desired by the operator.

It is so constructed that regardless of time, depth or circumstances, if a core of formation is desired, it is only necessary to disconnect the grief stem and drop in through the drill pipe, the core barrel assembly. This assembly is so manufactured that it will readily find its way down through ordinary drill pipe and tool joints into the drill collar and through the bit. A shoulder is provided in the core barrel to limit its passage through the bit. Dogs in the upper end of the core barrel engage a driving finger under a shoulder in the drill collar, thus causing the core barrel to rotate with the drill bit and at the same time prevent its upward movement.

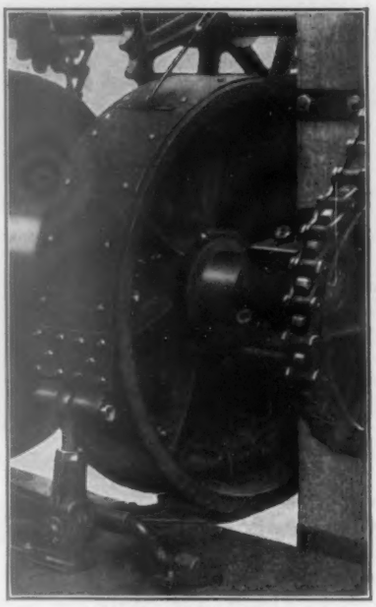
When in position the core head projects through the bit, not only acting as a pilot for the bit, but assuring a clean uncontaminated core taken from unmolested formation, according to the manufacturer's statement. Furthermore, the taking of core, or cores, does not suspend drilling operations, but both drilling and coring are conducted simultaneously, and a full gauge hole is assured to within two or three inches of the bottom of the core hole.

When the coring operation has been completed and formation sample taken, a spring jar overshot may be lowered on an ordinary sand line through drill pipe and tool joints to pick up the core barrel assembly. This overshot is provided with specially constructed jaws, properly guided, to take hold of the spear head which constitutes the upper end of the core barrel assembly. An upward pull on the spear head causes the driving dogs in the core barrel assembly to contract, thus releasing the assembly from its cutting position and permitting upward withdrawal. The Reed Roller Bit Company will furnish literature and further information from either their Houston or Los Angeles offices.

Brake Flange

LUCEY MANUFACTURING CORPORATION

Lucey Manufacturing Company, Chattanooga, Tennessee, is marketing its "free expanding brake flanges" which have recently been developed to overcome the troublesome feature of expansion coming with excessive heating due to carrying heavy loads.



Lucey Brake Flange

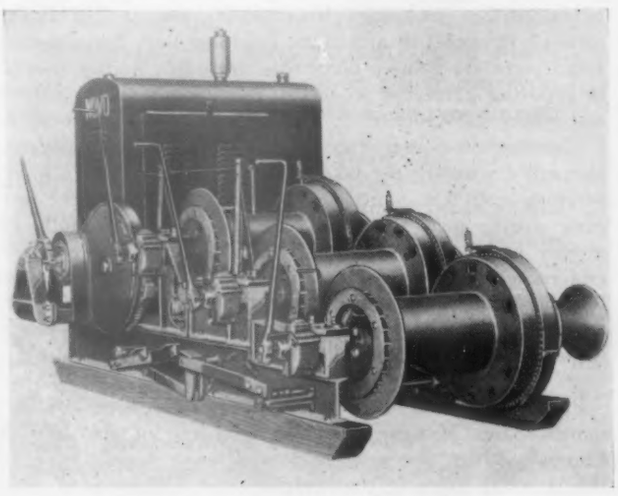
This brake flange is a free and separate part part from the drum spider, which is bolted solidly to the drum center. The flange has heavy lugs on the inside rim, and these lugs fit into pockets on thespider. Heavy studs are passed through slotted holes in the lugs and screw into the drum spider, holding flange maintaining clamps in place.

The Lucey drum center is cast solidly on the heavy forged shaft. This is done by a patented process, no keys are used and the construction is rigid. The excessive thrust that comes on the drum ends, or spiders, when the drum is spooled full as in bailing is taken care of by thrust collars grooved into the heavy shaft.

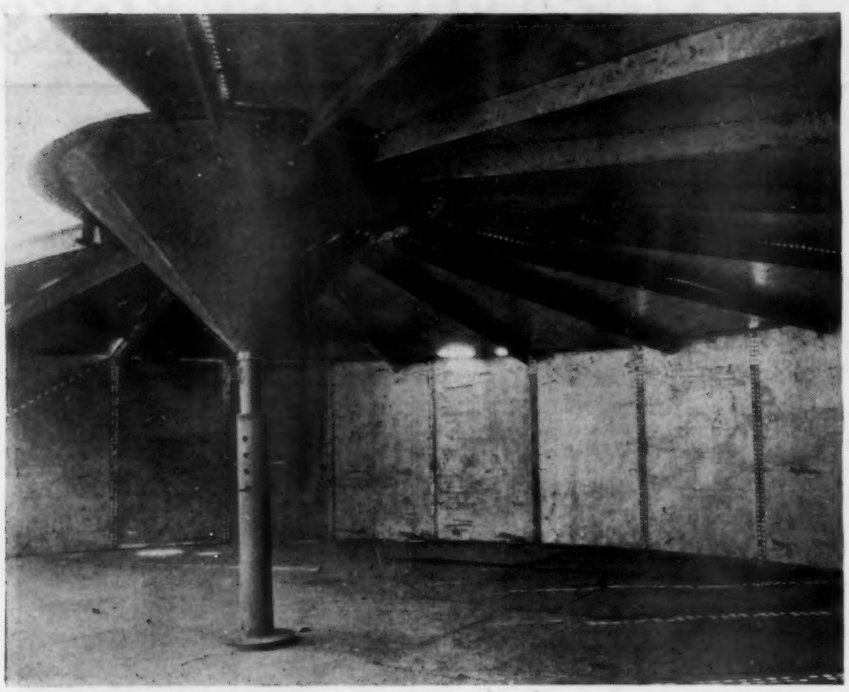
New Hoist

NOVO ENGINE COMPANY

A new hoist, the WH, has recently been designed by Novo Engine Company, Lansing, Michigan, for handling loads up to three and one-half tons. The standard line speed



Novo Hoist



Columbian A. P. I. Bolted Tank

is 250 feet per minute with greater loads being handled at lower speeds. A special high speed one-drum hoist is included in the series that has a line speed of 480 and 520 feet per minute and a load capacity of 1500, 2300 and 2700 pounds. The regular hoists are manufactured in one, two and three drum units.

Novite, the new alloy made by Novo Engine Company, is said to have a transverse strength of 80 to 100 per cent more than cast iron.

Base warping with the gears and bearings consequently twisting from the line is offset by use of the Novo all-welded steel base. Electric welding of each joint unites the base parts into a one-piece unit. To insure absolute rigidity, spreaders are tubular rather than the usual square castings or channels.

Dead End Sling

AMERICAN CABLE COMPANY

The American Cable Company has recently developed a new type of dead end sling for attaching transmission lines to telephone poles, which eliminates necessity for mutliating corner dead-end poles. This development in the dead end sling, which is illustrated here, followed the desire of public utility companies to eliminate the job of boring through the poles to attach the dead-end line. Because creosoted poles are gaining favor this cutting or boring resulted in exposing untreated wood to the elements, causing decay and weakened structure.

The new dead end sling also eliminates former difficulty connected with the use of wire rope, and makes it a handy arrangement. These fittings, shown attached to the wire rope fitting into the shackled and cotter-pin bolt, are merely steel cylinders which have been slipped over the undersized end of the preformed rope, then by means of 100 tons hydraulic pressure, so processed as to cold flow the steel into the interstices of the wire rope. Thereby it is locked to the rope.

Paul T. Putnam, formerly advertising manager, has been named Sales Manager, Oilfield Division, of the W-K-M Company, Inc., Houston, and will make headquarters at the Houston office of the company, but will spend much of his time in the field.

A. P. I. Bolted Tank

COLUMBIAN STEEL TANK COMPANY

The first bolted tanks built on A. P. I. specifications have been erected for the Coline Oil Company at Oklahoma City by the Columbian Steel Tank Company of Kansas City.

Ten of the 1000-barrel tanks made up the order and were placed in service March 22.

Columbian engineers first laid out the pattern for the tanks on their trial ground in Kansas City. They took advantage of the new design to make over also their patterns for floors and decks so they could use steel sheets of maximum size in them. The result was a saving in production costs giving at the same time quicker and simpler erection.

This company also have made patterns on all other sizes of A. P. I. tanks up to 10,000 barrels capacity. Bolted steel tanks larger than 10,000 barrels and up to 27,-500-barrel capacity will continue in production in the Columbian plant on their standard specifications.

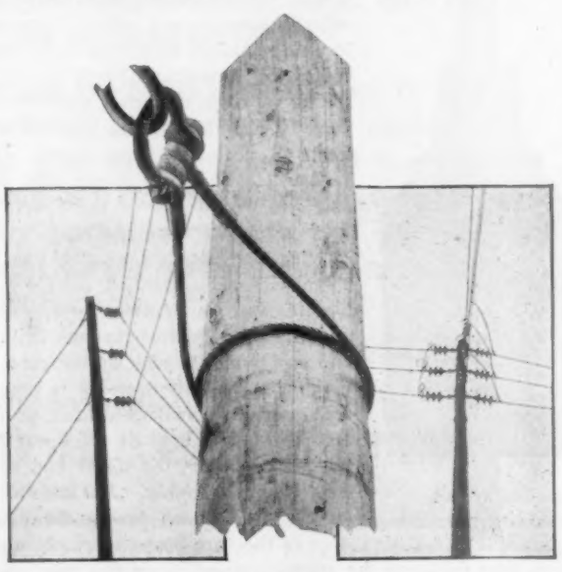
The accompanying illustration is a 5000-barrel tank, 124 feet in circumference and has 20 roof segments, each consisting of a pipeshaped sheet of steel 76 inches wide and 86 inches long. Six men can erect this deck in one day.

Releasing Rotary Spear

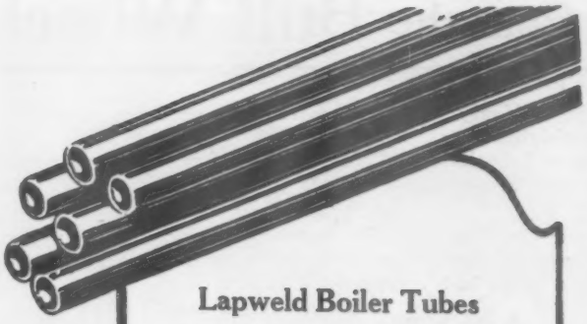
ALCO OIL TOOL COMPANY

Alco Oil Tool Company, manufacturers of the Alco hard formation four-way rotary drilling bit has recently placed on the market its new releasing rotary spear, a fishing tool with only four moveable parts, designed to minimize pipe hanging hazards.

Only the guides of the tool are in contact with the pipe while the releasing spear is being run into the hole. The slips operate only when the tool is given a one-quarter turn to the right. Then the strain is taken on the pipe and the slips take hold. If the pipe cannot be pulled, one-quarter turn to the left releases the strain and the slips disengage themselves, and the spear is pulled from the hole.



Dead End Sling



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Lapweld Boiler Tubes

Open Hearth Steel and Special Alloy Steels

Recommended for all oil country uses.

The Tyler Tube & Pipe Company
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ASCO STEEL
STANDS SUPREME

Every step in the production of Asco Steel is watched closely. From the selection of the raw materials to the finished product, the first thought always is to produce a steel that will give the best results to the makers of Oil Well Tools. Can we help you to produce better tools?

DISTRICT OFFICES:
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541 McCormick Bldg., Chicago, Ill.

THE ANDREWS STEEL CO
NEWPORT KENTUCKY

Protect *Your Estimated* Profits with a Buckeye

The Texas contractor-owner of this ditcher is using it for pipe line construction. On this job it is cutting 725 lineal feet an hour, making a ditch 20 inches wide by 32 inches deep. That is better than a mile in 8 hours—good going, but nothing exceptional for a Buckeye.

Performance of this kind makes it easy to understand why Buckeye Pipe-Line Ditchers are favored throughout the world's oil and gas fields. Most owners use them exclusively—many employ them in great numbers. Dependable digging ability reduces Buckeye operating and maintenance costs to a minimum, at the same time it assures profitable production.

Among the outstanding Buckeye working features are: Slow speed, heavy duty motor which furnishes ample and reserve power; rugged digging wheel, driven from both sides; positive acting conveyor; Alligator (crawler) wheels for traveling over rough or soft surfaces; traction brakes for safe operation on grades; and one man control throughout. Repairs or replacements can be made quickly and easily. Any part can be serviced without disturbing co-operating units.

The Buckeye Traction Ditcher Co.
FINDLAY, OHIO

There's a Buckeye Sales and Service Office near You

for over thirty years Buckeye

Why not the "Comfortable Great Northern" on your next visit to Chicago

Arriving in Chicago, you are within convenient distance of this famous hotel, which is in the central business section, less than one block from State Street, the great shopping thoroughfare, and close to the theatre, financial and wholesale district. The Field Museum Art Institute and Soldier Field Stadium are within easy walking distance.

As a Great Northern guest you can enjoy every convenience and real solid comfort without extravagance.

400 *Large Bright Livable Rooms,* $2.50 *a day and up.* For two persons in any room the additional cost is only $1 a day. Garage near. Tourists' cars delivered without service charge.

GREAT NORTHERN HOTEL

Chicago

Dearborn Street From Jackson to Quincy

Squeaks from the Bull Wheel

"Before we were married, Henry," said the young wife reproachfully, "you always gave me the most beautiful Christmas presents. Do you remember?"

"Sure" said Henry cheerfully, "but, my dear, did you ever hear of a fisherman feeding bait to a fish after he had caught it?"

First Cook—What do you do with yourself now that the ice man is out of a job?

Second Ditto—Well, the man who collects installments on the electric refrigerator ain't so bad.

You always used to knock the radio, now you seem to be strong for it. What made you change your opinion of it?

I read that the music publishers claim it is killing jazz.

"At the student council, last Saturday night, my suspenders broke right in the middle of the floor."

"And weren't you embarrassed nearly to death?"

"Well, not very; my room-mate had them on."

"So on your birthday your wife gave you a smoker's set. I didn't know you smoked."

"I don't, but she does."

Hey, young man, what's the idea of hunting with last year's license?

Oh, I'm only shooting at the birds I missed last year.

Waiter here's two dollars.

Thank you, sir. I suppose you want me to reserve a table for you?

No, I don't. I shall come in here in about ten minutes with two ladies, and I want you to tell me that all the tables are engaged.

Father, I've a notion to settle down and go in for raising chickens.

Better try owls. Their hours would suit you better.

Paul Peebles on Crooked Holes

My Dear Cleopatry:

I guess you have been wondering what I been doing since I written you last from Austin, Texas. But I been very busy working on a important problem which the oil fraternity is interested in. You can count on it that I will be down to Goose Creek in plenty of time to get my candidacy for the legislature started.

Well I know you are interested to know what I been working on. It is this.

You see there are two (2) things which is worrying the oil fraternity. One is how to cut down production and get a better price and the other is how to raise production and cut down the cost by eliminating crooked holes. A speaker which is as well knowed to the oil business as I am said before a meeting of geologists two (2) weeks ago that the biggest problem the oil man has is crooked holes.

Well, it now seems that I am not the onliest one who is working on this problem. Every engineer and every geologist and every manufacturer of oil country gods is working day and night shifts to solve this problem. They have more ways to cut out crookedness in holes than a dry agent has to get next to a bootlegger.

The thing which surprises me is that we have any crookedness in holes whatever anymore, but one guy up in Oklahoma had a pitture in his pocket the other day of a derrick over the only straight hole in Oklahoma—and it was a waterwell.

The seimigrapher has it figered out and the pump manufacturer, and the core bitter and the weight indicator and everything.

But my mind has been working at top speed on this subject since I gotten back and I got 'em all backed off the boards, so to speak.

My plan is simplicity itself. I am going to git up a machine which when putten down in the hole will be connected with a serious of phonygraph records. You maybe do not know about the kind of phonygraphs which is to be found in some places wherein you put a quarter and push a particular button and get what kind of music you need. Well, my plan works on that principal.

When this machine is run in a hole and the hole deviates ten degrees (10) to the right, it will connect with the right button on the right record and sing out, "Ten degrees to the right." I will connect up a radio with it and the chief engineer at the home office can git the report direct from the well. It can then connect into a dictaphone and a permanent record can be kept.

I got it all figured out but the problem of how to connect it up so that it will push the right button at the right time and as soon as I git this worked out I will let you know.

Yours,

PAUL.

INDIVIDUALISM

A component part of the Products of The Garlock Packing Company

GARLOCK-711 "Z" Spiral Packing derives its name from the manner in which it is constructed. Alternate layers of first grade duck and rubber compound are laid up diagonally, producing a material which in cross section has the appearance of the letter Z. This construction gives the packing unusual expansive qualities.

"Z" Spiral Packing is manufactured especially for application on rods or plungers that are badly worn, out of alignment or subject to excessive vibration. In other words this packing has individual characteristics that render a service for a given purpose. It will pack with complete satisfaction rods or plungers, as described above, against hot and cold water, ammonia and steam at low and medium pressures.

The Garlock Packing Company
Manufacturers of Mechanical Packings
Palmyra, N. Y., U. S. A.

TRADE **YALE** MARK

Ball-Bearing Spur-Geared Chain Blocks

Maintained Efficiency

Yale Handles Loads Better
Yale Equipment is Best

Maintained efficiency is a distinguishing characteristic of every Yale Chain Block. The efficiency is "lasting as well as high." Perfect co-ordination of the complete unit is obtained by making all the parts in the Yale plant under the same system of rigorous tests and minute inspections.

***There is* ONE *Chain Block and its name is* YALE**

that has high efficiency at the start and maintained during years of safe service — Maximum Maintained Efficiency Ask for booklet on the Yale Ball-Bearing Spur-Geared Chain Block.

DRIVING PINION
Heat treated for permanent strength and endurance. Accurately ground for absolute fit and operating ease.

DIE-SHAPED LINKS
Steel load chain is die-formed and electrically welded, giving accurate pitch and smooth finish.

GEARS
Meshed accurately with properly planned lubrication, preventing friction and wear

LOAD SHEAVE
The right steel for the longest life Ground on an arbor to give perfect concentricity for ballraces.

VANADIUM BALLRACES
are hardened and ground for the chrome vanadium steel ball-bearings which carry the load.

The Yale & Towne Mfg. Co., Stamford, Conn., U. S. A.

YALE **Hoisting ~ Conveying Systems**
YALE MARKED IS YALE MADE

Say you saw it in The OIL WEEKLY

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